MILITARY TANK PROCUREMENT

JUL 10 1957

MAIN
READING ROOM

HEARING

BEFORE A

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FIRST SESSION

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DEPOSITED BY THE
UNITED STATES OF AMERICA

MILITARY TANK PROCUREMENT

FRIDAY, MARCH 22, 1957

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON MILITARY OPERATIONS
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D. C.

The subcommittee met, pursuant to call at 10 a. m., in room 1501, New House Office Building, Hon. Chet Holifield (chairman of the subcommittee) presiding.

Present: Representatives Holifield, Fascell, Riehlman, Lipscomb, and Minshall.

Also present: Herbert Roback, staff director; James F. Eckhart, counsel; Earl Morgan, chief investigator; Robert McElroy, investigator; and Carey Brewer, senior defense specialist.

Also present: F. H. Higgins, Assistant Secretary of Army (Logistics); Lt. Gen. Carter B. Magruder, Deputy Chief of Staff for Logistics; Lt. Gen. Bruce Clarke, commanding general, Seventh Army; Maj. Gen. H. R. Westphalinger, Director of Procurement, Deputy Chief of Staff for Logistics; Maj. Gen. L. C. Doan, Continental Army Command; M. R. Sands, Assistant General Counsel of Army (Logistics); Brig. Gen. J. E. Engler, Chief, Industrial Division, Office of Chief of Ordnance; Lt. Col. H. J. Cronin, Army Research and Development; Lt. Col. C. M. Prosser, Ordnance Tank Automotive Command; J. Hayes, Ordnance Tank Automotive Command; D. Hood, Frankford Arsenal; Col. M. E. Townes, Transportation; A. Whilldin, Transportation; Maj. Gen. F. M. McAlister, United States Marine Corps, Assistant Chief of Staff, G–4; Col. R. B. Wilde, United States Marine Corps, Assistant Chief of Staff, G–3; Col. A. Sutter, United States Marine Corps, head, Materiel Requirements Branch, G–4 Division; and Lt. Col. F. A. Durand, United States Marine Corps, head, Ordnance Branch, G–4 Division.

Mr. HOLIFIELD. The subcommittee will be in order.

The purpose of this public hearing today is to inquire into the procurement of heavy tanks by the Army and the Marine Corps. The staff was directed to make an investigation into this matter when it came to the attention of the subcommittee that a substantial number of heavy tanks were standing idle in open storage for a long period of time, apparently because they were not suitable for military use.

This area of investigation, like so many others undertaken by the subcommittee, is highly technical and complicated, and involves classified data which cannot be brought out in public hearings.

The subcommittee believes, however, that an airing of this matter, to the extent that security requirements permit, will be helpful to the military services concerned. And certainly the public has a right to

know how well its dollars are being spent for the national security. It is part of the job of this subcommittee to help bring that knowledge to the public.

Because of the restrictions placed on these hearings by security requirements, the subcommittee met with military officials designated by Secretary of Defense Wilson to determine the areas of information which can be publicly discussed and those which should be confined to executive session.

The subcommittee will proceed in this manner: A brief report of the staff investigation, with classified matter deleted by prior agreement with the Department of Defense, will be read into the record.

This will be followed by prepared statements by Mr. Frank H. Higgins, Assistant Secretary of the Army (Logistics), Maj. Gen. Henry R. Westphalinger for the Department of the Army, and Maj. Gen. F. M. McAlister for the Marine Corps.

After those statements are read into the record, the subcommittee members and staff will direct questions to the witnesses.

Whenever any question touches upon an area of classified information, we will expect General Westphalinger or General McAlister to so indicate, and the answer will be given in executive session. The subcommittee members and staff will attempt to confine their questions at this hearing to the permissible areas of inquiry.

In my letter to Secretary of Defense Wilson, dated March 18, 1957, notifying him of these hearings, I listed the following nine matters of interest to the subcommittee in connection with this inquiry:

1. The policies that led to the heavy tank procurement.
2. The total costs of procurement.
3. Adequacy of the production and contract specifications.
4. Deficiencies in performance revealed by testing.
5. Relative responsibilities of the contractor and the procuring activity.
6. Alternate modification programs and cost.
7. Storage, maintenance and repair costs.
8. Intended uses of the tanks.
9. Differences in Army and Marine Corps policies concerning their use.

Other matters may be brought up in the hearing, and some of the subjects which I listed are partly within the classified area. We will try to proceed as expeditiously as we can in this difficult hearing, and may I say that we appreciate the cooperation and help of the military witnesses in getting it underway.

Although we may differ with the military witnesses in our personal judgments as to the matters which should be made public or withheld, certainly the subcommittee or staff do not in any way wish to jeopardize security requirements.

Necessarily we have to depend on the military witnesses to make the final decision. Accordingly, we trust that information will be withheld only for security reasons and not to hide any mistakes that the public ought to know about.

If any part of these hearings is held in executive session, I will request General Westphalinger to review later the classified transcripts and to release as much additional information as possible. We know from previous hearings and experience in these investigations that

information, which on first impulse seems wholly within restricted categories, often can be made public after a second look.

It also works the other way, since General Westphalinger asked our permission to withdraw some information from the public domain which as late as yesterday had been released to the subcommittee staff as unclassified.

We will now proceed with the hearing.

I will ask Mr. Eckhart, our staff member and counsel to give a background memorandum.

Mr. ECKHART. Mr. Chairman and members of the committee, about the middle of December 1955 the subcommittee received information that the Department of the Army, through its Ordnance Corps, had procured a quantity of heavy (T–43) tanks which were not in a usable condition. The tanks were manufactured by the Chrysler Corp. at its Newark, Del., tank plant.

The T–43 is a 60-ton—actually 62½ ton with its combat equipment—heavy gun tank designed for mounting a 120 mm. gun in the turret. The purchase price of these tanks was reported to be in the millions of dollars.

On December 28, 1955, the staff visited the Chrysler Corp.'s tank division at Newark, Del., and the offices of the Philadelphia Ordnance District in Philadelphia which supervises the Chrysler contracts.

At Newark, the staff discussed the status of the tanks, and inquired as to future plans for disposition or modification by Chrysler personnel.

In early January 1956, the staff visited the Ordnance Tank Automotive Command (OTAC) at Detroit, Mich., to discuss the history, requirements, engineering problems, tank deficiencies and the official status of the tanks.

It was learned that these tanks had been manufactured by Chrysler Corp. and delivered to the Army during the period 1952-54.

The first tank was actually delivered in December of 1952.

The last one was delivered on May 11, 1954. Some of the total quantity were purchased by the Army for the Marine Corps on a procurement request.

In January 1956 a large number of tanks were in outside storage at the Newark tank plant and, at present, there is still a large number stored there.

Thus in January 1956, almost 2½ years after the last tank was delivered and 3 years after the delivery of the first tank, no final decision as to their use or disposition had been made by either service.

The official status of the tanks in January 1956 was "under maintenance, awaiting instructions from Office, Chief of Ordnance or Ordnance Tank Automotive Command."

At that time there were 114 deficiencies in the tank as determined by field testing and engineering review. This number was subsequently reduced to 98 deficiencies requiring an extensive and expensive modification program.

While some of the modifications went to the automotive characteristics of the tank, others required the complete reengineering of the turret controls and fire control apparatus.

Those vehicles which are receiving only automotive modifications are the property of the Army and have been designated T-43-E1. This model is suspected of having limited combat capability, but was

nevertheless approved as standard in February 1956 by the Vice Chief of Staff of the Army over the objection of the Continental Army Command and the Army Transportation Corps.

This decision occurred one month after the subcommittee initiated its inquiry. Although the tank was designated standard on the basis of a test vehicle, the modification work was delayed and in fact is not yet completed.

Within the past week the staff made a return visit to the Ordnance Tank Automotive Command to bring up to date its information on this procurement. While in Detroit, the staff also interviewed the officials of the Defense Operations Division of Chrysler Corp.

This visit served to confirm some of the information which the staff had previously received but revealed that the Army had made a decision in the interim to modify and that the modification program is substantially completed.

HISTORY OF THE T–43 HEAVY TANK

The history of this tank in terms of a concept goes back to 1944, although it was not reduced to writing until December 1948.

On December 1, 1948, the Ordnance Committee of OTAC recommended the development of a new heavy tank. The purpose of the tank was outlined as follows:

To provide a heavy tank armed with a 120 mm. gun; decreased weight, increased maneuverability; greater flexibility and accessibility of all components over that of the T–34. The weight was established at 116,000 pounds (58 tons).

On March 10, 1949, the Army General Staff approved the project and on May 19, 1949, the General Staff approved the procurement of a pilot model. Revisions to the military characteristics were made on July 6, 1950, at which time the weight was established at 110,000 pounds (55 tons).

In December 1950 a supply contract was negotiated with Chrysler for the production of these tanks.

CONTRACTS

The T–43 tank is the subject of three principal contracts with the Chrysler Corporation. The production contract No. 8406 was let by Ordnance Corps in form of letter of intent on December 22, 1950, for both M–47 and T–43 tanks but the M–48 (medium tank, 50 tons) was substituted for the M–47. The letter order was for a limited quantity of T–43's but it was subsequently modified by supplemental agreements for an additional amount.

Under the letter order the contractor was to acquire or manufacture for the Government's account the machinery, equipment and facilities in an amount which would allow production on M–48 and T–43 tanks at the rate of 150 each per month.

The contract was a negotiated fixed-price type with a provision for price redetermination upward or downward. The facilities under the letter order were estimated to cost $88 million, the engineering $7 million, and the supplies $223 million.

These figures represent the original estimated cost for both tank programs and were modified numerous times during the course of the contract.

The costs of the T–43 program alone are estimated by the Army to be $133 million, excluding the facilities cost.

The second principal contract, No. 1223, dated February 10, 1953, was for engineering work, and this was followed by a modification contract, Ordnance No. 1397 dated June 22, 1953.

Supplemental agreements and amendments to these contracts were added by the scores.

ENGINEERING DIFFICULTIES

The T–43 tank allegedly was conceived jointly by the Ordnance Corps and the Continental Army Command and engineered at the Ordnance Tank Automotive Command in Detroit. The production contract was awarded December 8, 1950, 6 months after the outbreak of hostilities in Korea and 18 months after receiving approval of the General Staff to initiate procurement of pilot models.

The Army contends that the Korean conflict required a crash program. As a consequence the engineering was inadequate and incomplete at the time of the award of the production contract.

Numerous engineering changes were imposed upon the contractor after production started. Engineering suggestions were also made by Chrysler engineers during the course of production. However, all Chrysler engineering changes, as the staff understands it, were subject to approval by OTAC personnel.

The basic engineering then, which was allegedly faulty in many respects, appears to be the responsibility of Army personnel. The Army has not alleged that the Chrysler Corp. failed to perform according to the specifications and engineering drawings. However, it should be noted that the Army personnel advised that there was no performance specification for the tank.

Chrysler then could have manufactured in strict conformance with design specifications and still have produced an unsatisfactory tank.

However, the principal weakness of the tank is reported to be the fire control system which was not the responsibility of Chrysler Corp., but of the Frankford Arsenal, Philadelphia. Chrysler performed only the assembly work.

DEFICIENCIES

Since the initiation of the T–43 procurement, the tank has been beset with numerous engineering difficulties which appeared in the form of deficiencies in the final item. The characteristics of a tank can be divided into three general areas:

(1) Automotive.
(2) Armor.
(3) Armament or fire power.

With respect to the T–43 tank, the armor is apparently satisfactory; numerous automotive deficiencies existed, part of which have been corrected in the Army vehicles; and the fire control systems of the production models are said to be completely unsatisfactory.

At this point I would like to indicate that material in support of this last statement here concerning fire control systems is in the possession of the subcommittee but is a classified document.

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The Army has incorporated numerous automotive changes into their tanks, retaining the designation T–43–E1. After the tank was classified as standard, it was given the designation M–103. The staff understands that the Army has not incorporated the necessary changes into their vehicles to correct the fire control system and that therefore it is deficient in combat capability.

It was recommended by the project engineer that the M–103 be limited to the continental United States. OTAC personnel advised that as modification work is completed the tanks are being shipped to Fort Hood, Tex. to be used for training purposes.

Two vehicles received modifications involving both automotive and fire control features and were redesignated as T–43–E2.

These vehicles were under test through February 15, 1957, and both the Army and Marine Corps are awaiting the official test results.

If this version—the 43–E–2 version—proves satisfactory, it is expected that the Marine Corps will request the Army to contract with Chrysler to effect the necessary modifications to the Marines' tanks, to the T–43–E2 model.

The two models must be viewed as different items, since the Marine Corps increment is intended for use as combat vehicles and fulfills a military need, whereas the Army models appear to have limited combat capability.

In this connection the Army contends that their tanks could be modified to the E2 version in the event of an emergency and used as a combat vehicle. There is no explanation touching on why they are not now being so modified.

STORAGE AND MAINTENANCE COST

Under supplemental agreement No. 11 dated June 16, 1955, to contract No. 1397, Chrysler Corp. was required to preserve and maintain the tanks while in outside storage. Under the contract Chrysler was required to process the tanks for standby storage, to operate the tanks every 90 days and correct any automotive deficiencies, and to operate the gun turrets every 180 days. This maintenance work has been going on since January 1953 and represents a sizable military expenditure.

Specific costs have not yet been furnished to the subcommittee by the Army. These costs will be increased greatly after April 15, 1957, because the cost of the operation of the facility at Newark is being apportioned over the modification work on the Army tanks and the storage costs for the Marine tanks.

Subsequent to April 15, 1957, all of the costs of keeping open the facility at Newark will be charged to the maintenance-in-storage cost for the Marine tanks.

Mr. HOLIFIELD. Thank you, Mr. Eckhart.

We are honored this morning to have with us the Assistant Secretary of the Army for Logistics, the Honorable Frank H. Higgins.

Mr. Secretary, we are happy to have you here and we will be glad to have any statement you wish to make.

STATEMENT OF HON. FRANK H. HIGGINS, ASSISTANT SECRETARY OF THE ARMY FOR LOGISTICS

Mr. HIGGINS. Thank you, Mr. Chairman.

I am Frank H. Higgins, Assistant Secretary of the Army for Logistics. I wish to make a brief statement, more in the way of introduction of experts, on the T–43 heavy tank. The background information and data have been carefully assembled with the one thought to bring to this group all the available information required.

I have with me today experts in this field. I shall first introduce to you Lieutenant General Magruder at my immediate right who is our Deputy Chief of Staff for Logistics.

By coincidence, Lt. Gen. Bruce C. Clarke, Commander of the Seventh Army in Europe, is in Washington at this time. General Clarke, second on my right here, one of our foremost field generals and tank experts, is here to give his views on the heavy tank M–103.

Then I would next introduce on my left Major General Henry R. Westphalinger, who will give you the chronological data, procurement information and details on the modification work accomplished to date.

I would also introduce Maj. Gen. F. M. McAlister who is here to present the Marine Corps views on the heavy tank.

Second on my left, General McAlister of the Marine Corps.

I would also like to introduce to you Major General Doan who is one of our experts on tanks and a veteran as well as these other gentlemen of the recent wars and then I also have here today to present Brig. Gen. Jean E. Engler, who is the head of our industrial division of the Ordnance Corps, sitting across the table.

He will present additional detail and take particularly the ammunition phase of the program.

After these witnesses have presented their testimony, they will be available to try and answer such questions as you care to present.

Thank you very much.

Mr. HOLIFIELD. Thank you very much. We want to express our appreciation for the cooperation which your staff has given us in this inquiry. They have been very cooperative.

Mr. HIGGINS. Thank you, sir.

Mr. HOLIFIELD. Do you have one of your staff that wishes to make a statement at this time?

Mr. HIGGINS. I would like to have General Westphalinger please make a statement.

STATEMENT OF MAJ. GEN. HENRY R. WESTPHALINGER, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR LOGISTICS, DEPARTMENT OF THE ARMY

General WESTPHALINGER. Mr. Chairman, I am Maj. Gen. Henry R. Westphalinger, Director of Procurement, Office of the Deputy Chief of Staff for Logistics, Department of the Army.

I should like to make an opening statement outlining the concept which led to the development of the heavy tank, its production, testing, modification to make it battleworthy, and its field testing and ultimate use.

The Army appreciates this opportunity to appear before your committee for the purpose of discussing the heavy gun tank program. I have with me today representatives of the Army Staff and technicians from the Army Ordnance Corps who are prepared to discuss in detail any phase of our heavy gun tank program that would facilitate the review of this matter being made by your committee. Also present are representatives of the Marine Corps including General McAlister who will present the Marine Corps participation in this program.

At the outset, I should like to point out that certain areas of information related to this tank are classified, and we are most grateful to you, Mr. Chairman, for the fine meeting we had yesterday and the conclusions you announced on security. I think that is entirely workable and we are very grateful and I assure you we will keep everything down to a minimum as far as classification is concerned.

Before going into the details of this program, I should like to present a brief history of the heavy gun tank which, I believe, may be of value to the committee in evaluating the status of the program.

In order to fully understand the basis of the actions which I shall summarize, it is necessary to place the various phases or stages of the program in their proper perspective with respect to time. It will be noted that the span of time encompassed by the heavy gun tank program may be divided into four rather distinct periods.

INITIATION OF DEVELOPMENT, 1946 TO EARLY 1950

The first of these covers the period from the close of World War II to early 1950, that is, shortly before the involvement of the United States in the Korean conflict. The need for a heavy gun tank, capable of heavy assault action and breakthrough, and capable of destroying any armored weapons that the enemy might place upon the battlefield was contained in the War Department Equipment Board report of May 29, 1946.

Following a meeting between Ordnance Corps and Headquarters, Continental Army Command, personnel on September 21, 1948, at which military characteristics covering a new heavy gun tank were outlined, an Ordnance development project was initiated.

Research and development funds were made available only in an amount sufficient to prepare designs and to fabricate a wooden mockup. Based on the desire of the Department of the Army to accelerate development of the T–43 tank, fiscal year 1949 procurement funds were approved in May 1949 for the procurement of service test models. Five test vehicles were procured.

By October 1949, the wood mockup of the tank was available for inspection, and in December 1949, at a conference at the Detroit Arsenal, a number of changes to the military characteristics were agreed upon. The Marine Corps ordered a service test vehicle in May 1950 which was added to the five T–43's being manufactured for Army test.

CRASHING THE PROGRAM, JULY 1950–AUGUST 1953

The second period was introduced shortly before the Korean conflict. A quote from a memorandum to the Secretary of the Army, the Hon.

Frank Pace, Jr., by the Army Chief of Staff in May 1950, is indicative of the thinking of that time.

> Under present circumstances, for a few urgently required items, we will be compelled to deviate from the normal practice. We are presently engaged in a cold war which can become hot at almost any instant. Therefore, when we find an existing weapon is so far outmoded or surpassed by our potential enemies that the situation is dangerous we expect to curtail service tests as much as possible * * *. When the emergency is really acute, it may be essential even to eliminate service tests.

On July 12, 1950, the Chief of Army Field Forces (now CONARC) in a memorandum to the Deputy Chief of Staff for Logistics, recommended that the tank development and procurement program be placed on a "crash" basis at once, and this recommendation was approved by the Deputy Chief of Staff for Administration on July 1950.

The Ordnance Corps, accordingly, was requested to expedite development and manufacture of the prototype models of the T–43 heavy tank, "It being essential that the T–43 pilots be made available for engineering and service board tests at the earliest practicable date."

Further evidence of the importance attached to this program is found in a report of the special subcommittee of the House Armed Services Committee under the chairmanship of Hon. Philip J. Philbin, subsequent to August 1950, a portion of which states:

> The committee is concerned over the fact that we have no heavy tanks. The salient reason for that concern is the information that Russia has approximately 5,500 heavy tanks known as the Joseph Stalin III, and is considered to be well advanced in the development program of a still heavier tank to be known as the Joseph Stalin IV.
>
> There can be no doubt that those heavy Russian tanks will have armor and firepower superior to any tank which we now have. Therefore, we feel it incumbent that the Department of the Army immediately embark upon a heavy tank production program. The T–43 prototype tank will not be available, under present estimates, until February 1951. However, the component parts of that tank have already been proved satisfactory to a greater extent than the component parts of the T–41 (the new light tank) which is already going into production. The T–43 would have the same powerplant as the present Patton tank, an 810-horsepower motor which could be supercharged to 1,000 horsepower, giving that tank an excellent ratio of horsepower to weight, which would give it mobility comparable to the present Patton tank. It would have improved armor and it would mount a 120-millimeter gun which we know to have devastating firepower. Therefore, we recommend that the Congress make available immediately funds for the preliminary tooling of the T–43 heavy tank, and that sufficient funds be made available for the establishment of a production line and the production of an initial increment at least of 300 T–43's. It is estimated that these sums would total $85 million.

These considerations, including the not unlikely possibility that our forces in Korea might be confronted with the Russian heavy tank, led to a decision to telescope development and production in order to achieve an early availability of combatworthy heavy tanks.

To this end, the tank program was given the highest priority. Design activity at the Detroit Arsenal was augmented by contracting with the Chrysler Corp. for engineering services.

In December 1950 by direction of the Under Secretary of the Army, Hon. Archibald S. Alexander, the tooling of a production line was authorized. This telescoped development, and production was given high priority in order to complete tanks for troop tests and to permit a decision as to further production of these tanks at the earliest possible date.

In January 1951, June 1951, and March 1952, the Marine Corps placed orders with the Army. Deliveries from production at the Chrysler tank plant, Newark, Del., started in December 1952, and were completed in June 1954. It is important to note that during this period heavy gun tanks, although short of the design improvements reached subsequently, became available for combat use if needed.

As indicated above, a total of six engineering and service test vehicles were produced. The first 2 of these were built by the Detroit Arsenal and the first one delivered to Aberdeen Proving Ground, an Ordnance Corps test agency, in June 1951.

The additional vehicles were built by the Chrysler Corp., and contained design changes and improvements over the earlier two vehicles.

These design changes were reflected in a redesignation of the T–43 as the T–43–E1 in May 1952 and all production vehicles were produced as T–43–E1's. The first models of the T–43–E1 design were completed in December 1952.

ORDERLY TESTING AND MODIFICATION PROGRAM, AUGUST 1953 TO LATE 1954

The third period was introduced as the Korean truce negotiations were started and the likelihood of an immediate combat commitment of the T–43–E1 tank waned. Because of these circumstances, time permitted more thorough and deliberate tests with an objective of developing a program that would incorporate all required improvements. The period from 1953 through 1954 was consumed with testing, investigation of reported deficiencies, fabrication of modified components, and retesting.

MODIFICATION AND STANDARDIZATION ACTIONS, LATE 1954 TO PRESENT

During the fourth and last period of the program starting late in 1954, engineering conferences were held to firm up the details of a modification program, and a number of modifications were considered desirable to bring production vehicles up to optimum T–43–E1 standards. During this period, too, the degree of improvement resulting from development of the T–43–E2 heavy gun tank was available for analytical review and comparison.

Estimates of cost involved in modification of the existing quantity of vehicles T–43–E1 standards were developed for comparison with a program pointed at conversion to the new T–43–E2 design at such time as it was available and proven.

The progress made in atomic warfare, with its emphasis on lightweight, mobile ground units, and the advent of antitank guided missiles could not be ignored in weighing design improvements against cost.

The Army Materiel Requirements Review Panel, on November 9, 1955, after reviewing all aspects of the heavy gun tank program, including the time availability of the two models, recommended that the T–43–E1 be modified to include only essential modifications (98), to make it acceptable for combat and type classified as standard.

These recommendations were approved by the Vice Chief of Staff on February 6, 1956. Modification of the heavy tank for the Army started in July 1956 and will be completed in April 1957.

The Marine Corps currently has under consideration a similar program for their portion of the tanks to include the changes found desirable as the result of recently completed tests of the T–43–E2.

The Vice Chief of Staff, on March 30, 1956, approved a Continental Army Command recommendation that the Army quantity of T–43–E1 tanks (M–103) when modified, be shipped to the 4th Armored Division for troop test at Fort Hood, and ultimate shipment to the Seventh United States Army in Germany.

Mr. Chairman, with the presentation of this brief history of the Army heavy gun tank program, we now stand ready to discuss the technical aspects of heavy gun tank production or respond to any questions that this committee may have in connection with such a program.

General Engler will give you many of the answers you asked for. I have covered 3 of the 9 items and he will furnish you the rest of them.

We are fortunate to have present today general officers who have grown up with tanks in the Army over the past 25 years or more. Their practical knowledge extends from the details of designing a tank to testing and using them in combat against our enemies.

Before hearing from these expert Army witnesses, I suggest that General McAlister be permitted to make an opening statement for the Marine Corps in order that the picture will be complete.

Mr. HOLIFIELD. If that is satisfactory with the committee, we will have the statement of General McAlister and any other statements which you wish to have made right at this time and then we will consider the questioning of all the statements, Mr. Secretary Higgins.

Mr. HIGGINS. Yes, sir, that is agreeable.

Mr. HOLIFIELD. General McAlister?

STATEMENT OF MAJ. GEN. F. M. McALISTER, ASSISTANT CHIEF OF STAFF, G–4, UNITED STATES MARINE CORPS

General MCALISTER. I am Maj. Gen. Francis M. McAlister, Assistant Chief of Staff, G–4, on the staff of the Commandant of the Marine Corps. I am his principal adviser in the logistics area.

At the commencement of the Korean war, our fleet Marine forces were equipped with World War II type tanks. Early Korean experience indicated an urgency for an improved tank to be capable of defeating superior armored vehicles known to be available to the enemy. By late 1951 Marine Corps forces in Korea were furnished the M–46, a medium tank. This M–46 tank was known to be undergunned in comparison with the Joseph Stalin III heavy tank, which the enemy could employ against us.

With the threat of an expanding war which might find our units facing heavy enemy tanks at any time, the Marine Corps concluded there was a requirement, possibly a critical one, for a heavier gun tank to cope with enemy heavy tanks wherever encountered.

The Marine Corps had been following Army development of a heavy gun tank, the T–43 since its inception. Accordingly, during the years 1950–52 the Marine Corps issued purchase requests to the Army for the procurement of heavy gun tanks, T–43 at a total cost of $63.5 million.

Subsequently in 1954 the Marine Corps forwarded an additional $11.3 million to the Army for increased cost, storage costs, and modifications which were then anticipated.

$7.9 million of this amount still remains available for this purpose. An additional $3 million for necessary modifications was funded in fiscal year 1957 but has not been committed.

Only one of the production vehicles has been delivered to the Marine Corps, this having been accomplished in 1954 for the purpose of evaluation of its amphibious characteristics.

This procurement of heavy gun tanks by the Marine Corps was undertaken to assure us the capability of defeating in combat any known enemy tank. The quantity ordered was required to provide for initial issue and mobilization reserve stocks for units which the Marine Corps would subsequently activate.

Procurement was effected in the normal manner through the Army as the military service which has both development and procurement responsibility for land tanks and related ammunition under single service procurement regulations and concept.

The Marine Corps has continued to follow carefully Army development and tests of the T–43 since its inception. The Marine Corps did not test the T–43 other than to evaluate its amphibious characteristics and adaptability for storage in existing Navy amphibious ships and landing craft.

Because of our desire to prevent duplication, we make no effort to maintain tank testing facilities. The Marine Corps looked to official Army test agencies for engineering and service tests and remedial proposals on which to base Marine Corps evaluations and—ultimately—Marine Corps decisions.

Through analyzing official Army test agency reports of the T–43–E1 in mid-1955, it was determined that the T–43–E1 in its state of development at that time was not acceptable for Marine Corps use due to serious deficiencies.

Since the Army had initiated the design of a T–43–E2 version to correct the major deficiencies in the T–43–E1, it was decided that the Marine Corps should defer the final decision as to modification requirements until after the T–43–E2 engineering and service tests were completed.

This decision (in July 1955) was based on three determinations:

(*a*) The T–43–E1 was considered unsuitable for combat use.

(*b*) The tanks represented full Marine Corps mobilization requirements and thus were required to represent the ultimate in this type of tank.

(*c*) The difference in total modification cost between the T–43–E1 and T–43–E2 versions was relatively small; that is, $5.6 million for T–43–E1 against $8.75 million for T–43–E2.

In April 1956 the Marine Corps was advised by the Army that the T–43-E1 would be standardized and considered acceptable by the Army for combat use.

In view of the fact that not all of the serious deficiencies had been corrected in the T–43–E1 (M103), the Marine Corps reaffirmed its position stated originally in July 1955 and requested that the Army expedite completion of the T–43–E2 service tests at Fort Knox.

Further, the Marine Corps assured the Army that, upon receipt of the final results of the T–43–E2 service test from the Army, a prompt

decision relative to modification of the Marine Corps tanks would be rendered.

All preliminary reports of the tests of the T–43–E2 vindicate the judgment of the Commandant of the Marine Corps in this matter. The T–43–E2 shows promise of being a superior weapon. We have every reason to anticipate, upon receipt of the Army's advance test report, that we will request the Chief of Staff of the Army to proceed with this conversion economically and without delay.

Mr. HIGGINS. Mr. Chairman, this concludes the prepared statements that the various witnesses had. Now we are subject to your pleasure, sir.

Mr. HOLIFIELD. Thank you, sir.

Mr. Fascell, do you have any questions at this time?

Mr. FASCELL. Not right now.

Mr. HOLIFIELD. Mr. Riehlman?

Mr. RIEHLMAN. I will defer mine until after the staff asks their questions.

Mr. HOLIFIELD. Mr. Lipscomb?

Mr. LIPSCOMB. The same thing.

Mr. HOLIFIELD. Mr. Minshall?

Mr. MINSHALL. I have no questions at this time.

Mr. HOLIFIELD. Mr. Roback, director of the staff.

Mr. ROBACK. The justification presented by General Westphalinger was the urgency of the Korean requirement. Was it intended to use these tanks in combat in Korea?

General WESTPHALINGER. I said there was not the unlikely possibility of their being used there.

Mr. ROBACK. Well, in what capacity could they be used in Korea?

General WESTPHALINGER. They could be used in their normal capacity. I said we had to have a heavy gun tank that will outrange the enemy and would destroy any tank that would come against it.

Mr. ROBACK. Could this tank have been used in tank combat action in Korea?

General WESTPHALINGER. Well, I have some experts here. I would like to defer that question to General Clarke here. You have seen the tank and you are a commander. You have been in Korea.

General CLARKE. I commanded the First Corps in Korea during the war and I could have used this tank very nicely.

Mr. ROBACK. For tank combat action?

General CLARKE. If I needed it for tank combat action.

Mr. ROBACK. Well, the initial production and deliveries of these tanks were made before the Korean war ended. Were there any plans to have these tanks transported to Korea?

General WESTPHALINGER. You understand they never did get there. We only finished the production of these in 1954.

Mr. ROBACK. I am talking about the initial deliveries in 1952 at which time the Korean war was still going on.

General WESTPHALINGER. We didn't have enough at that time of initial deliveries. You have to proof test one of these things, as you know, and we were not ready at that time to ship them over.

Mr. ROBACK. Can you give us any information as to what the problems of loading and transporting these tanks were if that deci-

sion were made and, in that connection, what were the findings of the Marine Corps with regard to amphibious loading?

General WESTPHALINGER. General McAlister, will you give them the results of the amphibious testing?

We will take the last question first.

General MCALISTER. We found that we could handle the version that we tested since the running gear is essentially the same M–48 and T–43—on all Navy landing craft of the type on which we normally handle tanks except the LCM. This means we could handle them on LCT's and on LSU's and on LCU's.

Mr. ROBACK. Under what conditions?

General MCALISTER. Under any conditions under which we might be making an amphibious operation.

Mr. ROBACK. Well, what were the special problems that you encountered in making these amphibious tests—I mean the loading problems? Suppose you encountered rough surf?

General MCALISTER. I am debating the classification of that before I answer that. I think we can answer that as a general statement. Rough surf, of course—and that is a relative term—can get rough enough to prevent loading any item aboard ship unless you are in a sheltered harbor or area. I would say that comparable with the M–48 we could load it about anyplace we could load the M–48, the medium tank.

Mr. ROBACK. What was the position, what is the position of the Army Transportation Corps as to the transportability of these tanks?

General WESTPHALINGER. In response to the staff's request to have a representative from the Transportation Corps, I have Colonel Townes here.

Will you give the Transportation Corps view on this?

Colonel TOWNES. I am Colonel Townes, Assistant Chief of Transportation, Office, Chief of Transportation Corps in the Army.

STATEMENT OF COL. M. E. TOWNES, ASSISTANT CHIEF OF TRANSPORTATION, OFFICE OF THE CHIEF OF TRANSPORTATION, DEPARTMENT OF THE ARMY

Colonel TOWNES. In time of peace we would have no problem, for all intents and purposes, of delivering the tank in Europe. In time of war, there are things that must be taken in consideration. With the track off the tank in time of war we could deliver it to General Clarke in Europe.

Mr. ROBACK. Did the Army Transportation Corps make formal objection to the use of these tanks because of transportability requirements?

Colonel TOWNES. Yes; because of the restrictions on movement of the tank in time of war; that is, the fully assembled tank ready to fight.

Mr. ROBACK. Is there any official Army position with regard to maximum weight limitations on Army vehicles, or combat vehicles?

Colonel TOWNES. Are you addressing that question to me?

Mr. ROBACK. Whoever is qualified to answer it.

Colonel TOWNES. No; not as far as the tanks we are talking about is concerned.

Mr. ROBACK. Does there exist anywhere within the Army an official policy for maximum weight limitations for combat vehicles?

Colonel TOWNES. I can't answer that.

General WESTPHALINGER. General Doan will you please answer that.

STATEMENT OF MAJ. GEN. L. C. DOAN, ARMORED OFFICER, HEADQUARTERS, CONTINENTAL ARMY COMMAND

General DOAN. There is a policy for development which was established several years ago to bring our weight down from the previous 60 plus tons to a maximum of 50.

Everything being developed in the way of combat vehicles now is limited by that policy to a 50-ton weight. That was not in the interest of transportation but in the general interest of logistic support, savings of POL and so on.

Mr. ROBACK. Does it follow from that statement that future procurement in the combat vehicle area would conform to that policy limitation?

General DOAN. Not necessarily. If we went to wartime and there was an urgent need for heavy tanks the decision would be made above my echelon. The next tank that can carry out that role is still a little ways in the future. It is in development now. That will be of a lesser weight than the M–103.

Mr. ROBACK. Now, General Westphalinger, I would like to have your observations on this comment by a writer, military writer in Ordnance Magazine for May-June 1955 which appeared at page 885, Captain John C. Burney, Jr. He says among other things that "Unfortunately our present family of tanks, the M–41, M–46, M–47, M–48, and T–43 are poorly suited for the nuclear age. Our tanks are too immobile and too slow across country. Cross country mobility and speed are essential to vehicles which must effect the rapid concentrations and dispersion of atomic warfare."

I ask for your observation in connection with your statement that in the light of changing requirements of atomic warfare this tank would perform the necessary role.

General WESTPHALINGER. You have a newspaper or magazine article, it is not Department of the Army policy, this is his personal view. We always want more mobility. That is an insatiable appetite we have. We want more armor, we want bigger guns but some place there has to be a compromise.

It's all a matter of degree.

Mr. HOLIFIELD. Do the services at this time have plans for additional tanks or are they moving toward other types of equipment to take the place of tanks?

Mr. HIGGINS. General Magruder?

STATEMENT OF LT. GEN. CARTER MAGRUDER, DEPUTY CHIEF OF STAFF FOR LOGISTICS, DEPARTMENT OF THE ARMY

General MAGRUDER. We have plans for other tanks.

Mr. HOLIFIELD. For additional tanks?

General MAGRUDER. Yes, sir.

Mr. HOLIFIELD. And you are speaking now of tanks in the commonly accepted sense of heavy armored mobile vehicles with artillery power?

General MAGRUDER. That's correct, sir.

Mr. HOLIFIELD. You are not speaking of mobile vehicles with missile launching capabilities?

General MAGRUDER. No, sir, I was answering your question directly that we do plan further development and production of tanks.

Mr. HOLIFIELD. Would it be proper to ask you this question—and if you don't care to respond to that it can be answered in executive session—do you plan to have tanks nearer the policy requirements in weight, or heavier as these T–43's are?

General MAGRUDER. What was called the policy limitations in weight and size are a question of degree. There are many things that are desirable. We seek to get within limitations of weight and size. But it is more important to get firepower, mobility and protection. Where we have to go to a larger, heavier tank, in order to get the firepower, protection and mobility that we require, we do so.

We would normally consider that the limitations of weight and size could be liberalized in order to get other advantages.

So there is no absolute limitation on weight, there is no absolute limitation on size. We have limitations that we strive to get within. And we will strive to get within those limitations in the future tanks that we develop.

Mr. MINSHALL. Mr. Chairman, may I ask a question at that point?

Mr. HOLIFIELD. Surely.

Mr. MINSHALL. You say there is no limitation as to the weight contemplated for the future but in combat, with your roadnet and bridging system, doesn't that automatically reduce by the load those structures will carry; doesn't that reduce your weight of certain vehicles automatically?

General MAGRUDER. I did not—I do not think I said, sir, that we would disregard all limitations of the weight and size. I meant to convey the impression that we sought to get smaller sized and lighter-weight vehicles. But we may have to compromise those requirements in order to get firepower, protection and mobility.

In our future tanks we will endeavor to get within the limitations that were mentioned. Unquestionably, as you indicate, the capacity of bridges, the ability to go through towns with narrow streets and so on, influence our thought in getting down to small size.

Mr. MINSHALL. Your present Army bridges such as the pontoon bridges and Bailey bridges, would they carry the weight and the structure of a tank that is in discussion here today?

General MAGRUDER. The heaviest ones will. Let me secure verification from the experts on that.

General DOAN. We have a floating bridge with armor which will carry 60 tons.

Mr. HOLIFIELD. But do you have them in quantities so that they will be available for this type of transportation across streams, bodies of water?

General DOAN. I am not qualified to answer that, sir.

General WESTPHALINGER. Mr. Chairman, I would like to call on General Clarke. He has made some surveys of where he wanted to use these tanks. General Clarke, will you answer that question?

STATEMENT OF LT. GEN. BRUCE C. CLARKE, COMMANDING OFFICER, SEVENTH UNITED STATES ARMY

General CLARKE. I have been interested in the use of this tank in Germany and have made certain surveys as to roads and bridges in Germany. As some of you will remember from your service days the Germans used a 75-ton Royal Tiger tank during the war and I don't recall that they were hampered any as reference to my problem. That about answers the question. I have bridging equipment that carries 60 tons and being basically an engineer from my earlier days I would say that a bridge designed for 60 tons would carry 62 without fear of being argued with by the engineers.

Mr. RIEHLMAN. Mr. Chairman, may I ask the General a question?

General, do you think, after giving thorough study to the remodeling and the reconversion of these tanks that we have in great quantities here, that they are going to be of practical use to you in Germany in view of the modern type of equipment that we have in mind?

General CLARKE. Well, I would preface that by saying that I haven't given thorough study to the modification of these tanks. I have been out of the country now for 8 years practically and I am not familiar with the interior of this tank. I have only read the reports on it.

Mr. RIEHLMAN. Then of course you can't honestly testify to this committee that you are interested in the tank for specific use if you are not acquainted with what the changes are to be made and what the inside of the tank is as of today?

General CLARKE. I have read the reports, Mr. Riehlman.

Mr. RIEHLMAN. I see.

General CLARKE. On the tank, and——

Mr. HOLIFIELD. Have you witnessed any of the tests of this particular tank?

General CLARKE. I saw the tank driven and used at Fort Hood, Tex., last week. I did not see it fired. But I saw it at Fort Hood last week.

Mr. LIPSCOMB. Mr. Chairman.

General, you are speaking of the T–43–E1 or the T–43–E2.

General CLARKE. No, I am speaking of M–103.

Mr. LIPSCOMB. That is the E1.

General WESTPHALINGER. That is the E1 modified with 98 modifications.

Mr. HIGGINS. May I ask, so we don't have this confusion or ambiguity here, that someone set forth what were the T–43, the T–43–E1 and E2 and the M–103?

STATEMENT OF BRIG. GEN. JEAN E. ENGLER, CHIEF, INDUSTRIAL DIVISION, OFFICE OF THE CHIEF OF ORDNANCE, DEPARTMENT OF THE ARMY

General ENGLER. The T–43 was the initial designation applied to the development vehicle and which was never produced. The vehicle produced between the period of December of 1952 and May of 1954 was the T–43–E1. It was the T–43–E1 which after 2 series of tests by the CONARC Board and which was modified by the application of some 98 engineering changes that became M–103. In other words it was essentially the production vehicle with changes applied to improve

and to correct deficiencies uncovered by the 2 series of tests by the Armored Board at Fort Knox.

Mr. HOLIFIELD. In May of 1954, you had all of the production completed, is that right?

General ENGLER. That's correct, sir.

Mr. HOLIFIELD. So anything that we have after that regardless of designation would be a modified T–43–E1?

General ENGLER. Would be a T–43–E1 changed, that is correct, sir.

Mr. HOLIFIELD. Would you explain the difference between the M–103 and the T–43–E2?

General ENGLER. The basic difference between the M–103 and the T–43–E2 are No. 1, the T–43–E2 provides a direct fire telescope which was not on the M–103.

Secondly, the T–43–E2 provides for a rearrangement of the fire control to make the rangefinder commander operated instead of gunner operated as it was in the case of the M–103.

Thirdly, the T–43–E2 has an electrical turret traversing and elevating system as opposed to the hydraulic system that was utilized in the M–103.

Lastly, the T–43–E2 provides for the electrical transmission of the firing data as received by the commander over the rangefinder to the gunner as opposed to the mechanical linkage type of transmission that was used in the M–103.

There are other relatively minor changes. I think those are the basic changes.

Mr. HOLIFIELD. I don't think we need to go into that. In layman's terms, if we can understand, the T–43–E2 is in effect a drastically improved model of the M–103, it is a step in improvement, you might say, but basically the tank is the same, your firepower is the same and your armor is the same, your weight is the same. Your method of mobility on that is the same, but this is really getting into the field of curing the deficiencies which you found in both the T–43–E1 and the M–103.

General ENGLER. Yes, sir. I would say that the T–43–E2 is a more modern model than the M–103. It actually is a result of the application of developments that were completed after the end of production of the T–43–E1.

General WESTPHALINGER. Mr. Chairman, I don't think we can say that the T–43–E2 is a drastically improved one. I think it is more of the order that General Engler said, there are certain improvements. The M–103 is——

Mr. HOLIFIELD. Let's hope they are drastic enough so they make them efficient and usable in the place of what they were in the original——

General WESTPHALINGER. The point I am trying to bring out now is that the M–103 is a satisfactory tank.

Mr. HOLIFIELD. If M–103 was satisfactory, why did you go to the expense of modifying it to the T–43–E2?

General WESTPHALINGER. Of course, we are always trying to make it better.

Mr. HOLIFIELD. It was satisfactory to you.

General WESTPHALINGER. To the Army.

Mr. HOLIFIELD. But it was not satisfactory to the Marines, is that right?

General WESTPHALINGER. I will have to let the Marines speak to that.

Mr. HOLIFIELD. That is the testimony, as I understand it. That is what was said this morning.

General ENGLER. I would like to draw a simile if I might. We now have in our Army considerable quantities of the M–48–A1 medium tank which we consider a perfectly satisfactory tank. We are currently producing a more modern tank, the M–48–A2. We do not propose to go back and modify all of the M–48–A1's.

Mr. HOLIFIELD. I understand that.

General WESTPHALINGER. This is all a matter of degree. One is not black and the other white. It is a matter of degree all the way through here. The Army feels that the M–103 heavy gun tank is a satisfactory tank.

Bruce, do you want to speak up there?

General CLARKE. I made a request late last September that the M–103 tank be sent to me in Germany and I would be happy to get them.

Mr. HOLIFIELD. As I understand it, now, and if I am wrong I would like to be corrected by the Marine Corps—the M–103 as modified from the T–43–E1 was satisfactory to the Army but it did not come up to the Marine Corps needs and requirements. Therefore they asked that further changes be made and they were made and am I right in understanding that the T–43–E2 were the models that were delivered to the Marine Corps?

Is that correct?

General MCALISTER. To the last part of your statement you are correct. We have had no models as yet delivered to the Marine Corps. We have not seen the final test report of the E2 vehicles. It is in the mail now and is on the way to us. Everything we know about it looks fine.

Mr. HOLIFIELD. It is contemplated that these will be delivered to the Marine Corps as a result of your requirements for these improvements which were enumerated by General Engler.

General MCALISTER. Yes, sir.

Mr. RIEHLMAN. I wanted to ask General Clarke one other question. General, after having had an opportunity to see this tank this past week and observe the tank in its maneuverability and actions, did you personally make any recommendations?

General CLARKE. I have not been called on to make recommendations.

Mr. RIEHLMAN. You are going to have to deal with them if you request them to be used in Germany?

General CLARKE. Yes, sir. We have a parallel here to my 1944 automobile that I own. If I were to buy a 1957 I would expect that it would have improvements of the last 3 years on it but I could get service on that 1944 and will run it several more years, I think. I mean 1954. I have forgotten 10 years now.

Mr. FASCELL. I would not be so fast to make that change. You might have been right the first time.

Mr. HOLIFIELD. May I also say that your analogy is understood but we are not exactly talking about that type of use. We are talking about your 1954 automobile which was satisfactory to the Army but

not satisfactory to the Marine Corps and they want changes made in the 1954 automobile before they take it and use it.

General CLARKE. Maybe I am speaking about what the Marine Corps plans to do with that tank as compared to what I plan to do with it. I understand that the Marine Corps plans to put that tank in war reserve to take care of mobilization requirements.

General MCALISTER. That will completely fill our mobilization requirements.

General CLARK. I plan to use that tank to meet what may be an emergency tomorrow morning. I think in there comes a difference.

Mr. HOLIFIELD. I see no difference in the Marine Corps, whether they use it or plan to use it tomorrow morning or whether they intend to put it in reserve. They still want something which they think will do the job, and I fail to draw the logic of the distinction between something you have to use tomorrow morning and something they are putting in reserve, if both are available.

General CLARKE. I think when you get into the question of availability, you get into a considerable amount of funds which are important.

Mr. HOLIFIELD. Yes, and the fact that some of these are not yet modified as the Marine Corps wants, and as I understand it, the logic of your position is then that you intend to use these in the M–103 stage because they are available for immediate work while the Marine Corps expects to have theirs improved before they use it. That is the difference in your logic.

General CLARKE. I think that is a reasonable difference; yes, sir.

Mr. HOLIFIELD. I am not criticizing it. I am trying to understand what you say.

General WESTPHALINGER. The point I am trying to make is that both of these tanks are usable. The M–103 as General Clarke indicated he wants. It is a perfectly satisfactory tank. We concede that the E2 is an improvement, we have gone through some research and development and naturally we would be improving. If we hadn't improved the model, there is something wrong with our research and development and our design.

Mr. LIPSCOMB. I would like to get something cleared up on terminology. In General Westphalinger's statement he says that the Army declared these or approved them acceptable for combat and type classified as standard. But yet in General McAlister's statement he says the T–43E1 was considered unsuitable for combat.

General WESTPHALINGER. I think that is a question of time.

When did General McAlister say that? I think that was in June or July 1955.

Mr. LIPSCOMB. Evidently it is still so because he is not yet accepting M–103.

General WESTPHALINGER. In July 1955 we would have agreed with him. Subsequently we put 98 modifications on them that brought the T–43E1 up to the standard of it, or converted it into the M–103. That is just being completed.

Mr. HOLIFIELD. Mr. Eckhart?

Mr. ECKHART. General Clarke, I understand that you requested these tanks be made available to you in September of 1956, is that correct?

General CLARKE. Yes.

Mr. ECKHART. Was there any action taken on that request by the Department of the Army?

General CLARKE. Yes; that has been approved. The tanks have been sent to the Fourth Armored Division at Fort Hood, Tex., which is scheduled to gyroscope (move) to Germany this fall and will bring the tanks with them, provided that additional tests they are going through now proves what we think will be the situation in regard to the serviceability.

Mr. ECKHART. Can you recall when you first advised when these tanks would be first made available to you in Germany?

General CLARKE. No; I can't recall. The letter was written in September and it takes a couple of months to get it through and back so it must have been a couple of months later than September. That would be my guess.

Mr. ECKHART. Would it be more economical from the Government's viewpoint to have shipped these tanks from Newark, Del., to Germany and await the assignment of troops over there or to allow troops in Germany to train on the tanks rather than shipping them from Newark, Del., to Texas and then requiring that they be transshipped back to an eastern port for export overseas?

General CLARKE. I think the answer to that is based on the fact that we rotate our troops in Germany by divisions and the Fourth Armored Division is being trained to come over and replace the Second Armored Division this fall. The unit that was going to use them over there needed to train on them. That is why they were, I think, sent down and also to look them over to see if there were any other little things that needed to be done to them.

Mr. ECKHART. Thank you.

Mr. ROBACK. One or two points of clarification on the previous testimony, Mr. Chairman. I would like to get a statement from General McAlister as to whether the Marine Corps at this time regards the E1 as a satisfactory combat vehicle.

General MCALISTER. We do not, Mr. Chairman.

General WESTPHALINGER. For the record, let's make that clear. The Army does not consider the T–43E1 satisfactory.

Mr. HOLIFIELD. Let us propound the same question on the M–103 which is the modified T–43E1.

General MCALISTER. No, sir; we do not.

Mr. HOLIFIELD. And what is your answer?

General WESTPHALINGER. The Department of the Army does consider it a satisfactory tank.

Mr. FASCELL. In order to get this in the proper frame of reference, I would like somebody to tell me whether or not there is any difference in the military specification as far as the Army and Marine Corps are concerned?

General ENGLER. There is no difference.

Mr. FASCELL. How about requirements? Does the Marine Corps want their tank to do something that the Army doesn't want it to do?

Mr. HOLIFIELD. Performance?

Mr. FASCELL. Military requirements. Just in general terms.

General MCALISTER. First off I would like to correct one impression of my previous answer when you asked me if we considered the M-103 satisfactory. I should say not for Marine Corps use. Now——

Mr. HOLIFIELD. All right.

General MCALISTER. Now, if I try to answer Mr. Fascell's question——

Mr. HOLIFIELD. We assumed that was your meaning, General.

General MCALISTER. I wanted to be clear.

Mr. HOLIFIELD. Then the committee must come to the conclusion that, as a result of Mr. Fascell's question and Mr. Lipscomb's question, either the Marine Corps has a different mission to perform which requires a different type of weapon or they want a more efficient weapon than the Army wants. We must come to that conclusion.

General MCALISTER. May I speak to that, sir?

Mr. HOLIFIELD. Yes, sir.

General MCALISTER. First off I think it is important that we—the Marine Corps—are getting our total mobilization reserve requirements of these tanks. Even the Army says it is—the E–2 version—definitely the better tank and presumably if they went into production of those tanks tomorrow they would manufacture the E–2 version. We, having our total requirements and our money invested in this tank, would very much like to see them the latest model which the Army will have and since it is one with which we will have to fight.

Secondly, one of the worst positions that an amphibious force can possibly be caught in initially in its landing is to be caught by enemy armor, and we have nightmares about that subject. Therefore, it is extremely important to us that we have effective weapons of this nature which will stand up under long sea voyages, can be landed on the beaches under adverse surf conditions, and be prepared to shoot when they hit the beach. Therefore, we think we are required to have the best. Does that answer you, sir?

Mr. ROBACK. Isn't the Army in this position, that the Army user, which is the Continental Army Command, shares basically the position of the Marine Corps, but the Army had to do something with the tanks so they overruled the Continental Army Commander and are making whatever disposition of the tanks they can?

General WESTPHALINGER. That is not correct. The Continental Army is not the user of these tanks. The Seventh Army in Germany will be the user.

Mr. ROBACK. That is an ultimate designation. I am talking about when the tanks were under production.

General WESTPHALINGER. They are the developing agent. They handle all the research and development projects.

Regarding CONARC's nonconcurrence I should like to call on General Doan to state the latest CONARC position on this.

Mr. ROBACK. And will you also state the positions preceding this up to date?

General DOAN. Mr. Chairman, my position in CONARC, is chief of the armored section down there. I am not directly in the materiel developments where these actions take place, but being the Chief of Armor I have an interest in everything that goes through my shop concerning tanks. I have been there the past 2 years. As the various actions have taken place, a normal development cycle of actions has followed. The Board reported certain deficiencies, as a result of tests they conducted, in periodic reports. They recommend until all the deficiencies have been corrected the tank as unsatisfactory. There is no

degree of unsatisfactoriness there. In my section, the Materiel Development Section goes along usually with those findings. When the E–1 came up our Headquarters stated that the E–1 as reported by the Board was unsatisfactory. Following that at an informal meeting we discussed the deficiencies which made it unsatisfactory.

General Engler has enumerated 98. There were three major deficiencies. It also was agreed as to how those would be corrected. They would be incorporated in the M–103. When that agreement was reached CONARC accepted the M–103 as satisfactory with these three major deficiencies corrected and we have accepted the M–103 as acceptable and satisfactory for combat use.

Mr. ROBACK. Was that on the basis of test operations or on the basis of a paper agreement?

General DOAN. It was on the basis that they would correct these three deficiencies. One has been very satisfactorily corrected. The other two are now being service tested at Fort Hood and we anticipate that they will likewise be satisfactory corrections of these two major deficiencies.

Mr. ROBACK. Does CONARC want any more tanks of this particular model?

General DOAN. Not of the E–1.

Mr. MORGAN. Of the M–103?

General DOAN. There are no more.

Mr. ROBACK. You don't want any more?

General DOAN. We want more heavy tanks, yes, sir.

Mr. ROBACK. You want more heavy tanks but you don't want this particular model?

General DOAN. If we have a requirement for additional heavy tanks, depending upon the time period, we would ask for the best we could get and there have been improvements which have been discussed here since the improvements to the E–1 were worked out.

General WESTPHALINGER. We are even working on improvements on the E–2 so if we were going to build any new tanks——

General DOAN. I would like to draw the parallel with the M–41 tank which was mentioned this morning. That was considered unsatisfactory by the Board and this same change of review but nevertheless in view of the Korean requirement some 3,300 were produced and the Board still held they were unsatisfactory.

General Clarke and I happened to be at Fort Hood together. We got those tanks for troop tests the same as Fort Hood has the M–103. We found these deficiences were fairly easily correctible and the M–41 is one of the best tanks we have today.

Mr. FASCELL. General, what are we testing against?

General DOAN. Against the standard of performance.

Mr. FASCELL. Adopted by whom?

General DOAN. By the Army, sir.

Mr. FASCELL. Is that in writing on this particular tank?

General DOAN. I can't answer that. I assume it is, sir.

Mr. FASCELL. When was it developed, after the tank was in production?

General DOAN. There has been no change on our part on that, sir.

General ENGLER. In answering that question, sir, No. 1, they are testing against standards of performance that have been established

among CONARC, Ordnance and the staff agencies as the required standards for the particular elements involved.

With regard to when those standards were developed, this tank when it was initially released from development had not been production engineered. The concept, the mock-ups, and the general performance characteristics had been agreed upon between the using forces, the staff agencies and Ordnance. Realizing that this was a telescoped development and production effort, an engineering design coordinating committee was formed composed of members again of CONARC, the users, the interested staff agencies from the headquarters in Washington and Ordnance. This design coordinating committee met periodically all through the period of design and production of the vehicle and they progressively made changes in the standards as the production engineering progressed.

So these standards were a matter of progression, sir, from development through to production. Some standards were set on the basis of targets, knowing full well that they might not be completely meetable. That was recognized by all concerned.

A tank is basically a compromise in design, sir. To gain one element that is highly desirable in certain instances, another element must be compromised. Those standards have been completed.

Mr. FASCELL. Under those standards any one of a number of agencies could find the tank unsatisfactory, is that not true?

General WESTPHALINGER. Will you elaborate on the question?

Mr. FASCELL. He said you have requirements that you know you can't meet so anybody can say it is unsatisfactory if you are testing against those standards.

General WESTPHALINGER. You have to apply judgment here. We shoot for the ideal in many cases and we would like to have the ideal.

Mr. FASCELL. I understand.

General WESTPHALINGER. But we have to apply some judgment and that is what they have done at these headquarters.

Mr. FASCELL. But it is a question of whose judgment?

General WESTPHALINGER. That is correct.

General ENGLER. Let me see if I can give an example, sir.

Mr. FASCELL. Right.

General ENGLER. The standards that had been established between CONARC and the engineers called for no more than three-tenths of a mil backlash through the fire control system. That includes the mechanical linkage that transmits the information from the range finder through to the gunner's periscope.

After the manufacture of this to the tightest of tolerances in manufacture and after thorough tests it was recognized that tolerances with this type of linkage could not be held closer than for four-tenths of a mil. It was therefore agreed that four-tenths of a mil would be considered a satisfactory standard for this purpose. Going to the T–43–E2 with the electrical type of transmission and doing away with the mechanical, you can arrive at three-tenths of a mil standard.

Under any circumstances the difference between the three-tenths of a mil and the four-tenths of a mil standard does not make the equipment unusable.

That is an example of one instance, sir.

Mr. HOLIFIELD. Mr. Lipscomb?

Mr. LIPSCOMB. I am wondering why it wasn't feasible for the Army to wait to develop the M–103 with the 98 modifications until the Marine Corps had agreed to standards also—all of the standards were agreed upon—before they went ahead and developed the M–103 version.

General WESTPHALINGER. Will you repeat that question, please?

Mr. LIPSCOMB. The Army went ahead with a certain number of T–43–E1's modified with the 98 modifications. Why wasn't it feasible to wait until the Marine Corps had their version ready to go ahead and you both made the same version?

General MAGRUDER. May I speak on this general subject, sir, and try to cover the whole problem broadly? There is no question in the Army's mind that the T–43–E2 promises to be a better tank than the M–103. When you say satisfactory or unsatisfactory, that has been explained.

Unsatisfactory means you want to ask for more modifications. It is not a question that, if the Marines had to fight today and only the M–103 were available, they would say the M–103 isn't worth putting into action. I am sure I can speak for General McAlister and say he would like to have that tank if there were not another that he considered better.

We agree that the T–43–E2 promises to be a better tank than the M–103. We have the question of timing, we have the question of use and we have the question of money.

When the threat of a general war became less imminent, we stopped production of the heavy tank. We didn't continue after 1954 to produce the heavy tank.

In the production that was accomplished, the Marine Corps bought its mobilization requirements. The Marine Corps then has this tank for use should combat start now and will have it for use should combat start any time in the near future.

The Army did not buy its mobilization requirements. It bought only what we call a troop test quantity. This is a lesser requirement. Let me digress again. We are also, as I told the committee before, developing new and improved tanks. It will be some time before we have those tanks. I can give dates in executive session. In the interim the Army has a troop test quantity of heavy tanks that can be fought. The M–103 is a good tank, not as good as if we spent more money to get the E–2, but a good fightable tank, that we can use.

The question becomes: "Do we wish, for only a troop test quantity, to put an extra expenditure of funds into a tank of which we do not have enough to equip the Army or would those funds be better spent in developing an improved tank that will come on in the future, accepting that the Army will be less ready to fight against heavy enemy armor during the interim period?"

Mr. HOLIFIELD. I think that is a clear statement, General. I would like to ask you one question on this. How realistic is the Army's doctrine specifying heavy tanks, not only from the standpoint of nuclear warfare but in conventional warfare considering your problems in transportability and mobility?

I know you are developing atomic weapons. I am a member of the Atomic Energy Committee, and I know you are moving into the nuclear field.

Do you consider that the philosophy of having the heavy tanks is going to be a continuing philosophy in view of certain developments along that line and along the missile line?

General MAGRUDER. I would very much prefer to answer that in executive session if I may, sir.

Mr. HOLIFIELD. All right, sir.

Mr. RIEHLMAN. Mr. Chairman, may I ask this question in response to what the General has had to say? Does the committee understand, General, that in the procurement of this number of tanks in 1950, it was called a crash procurement—that is why we are having some problems about it—that they were not going to be used for combat service entirely, but for troop testing purposes and that is why they bought such a small quantity?

General MAGRUDER. Mr. Riehlman, our first procurement was only enough for the Army for troop tests, for the Marines for their whole requirement. Had the degree of urgency, the degree of danger of a general war continued as high as it was at the time the contract was let, I believe the Army would have continued production.

Mr. RIEHLMAN. Wouldn't they have had some difficulty with the finished product?

General MAGRUDER. The finished product would not have been as good as the M–103 or the T–43–E2, but it was a tank with mobility, armor and tremendous firepower. It is not as good as what we would like.

Mr. RIEHLMAN. Had the emergency continued at this rate, what position would the Army be in when these tanks came off the production line with some 100 modifications to be made before they were going to be effective in warfare?

General MAGRUDER. I have apparently failed to make the point I was seeking to make, sir, which is that a tank which is reported as "unsatisfactory" is far from being worthless in combat. Our language is unfortunate. Instead of describing the tanks as "unsatisfactory" we ought to say this tank is not as good as what we would like to have and what we think we can get. Every tank we make is modified, and modified, and modified. We are still modifying our medium tank that has been in production several years.

Mr. RIEHLMAN. I understand that. And I understand your position. But answer this question: The tanks that came over the production line and have been stored around the country here in fairly good quantities; were they at the time they came off the production line ready for combat service?

General MAGRUDER. This I would call a question of degree but I would like to ask some of the specialists to give you their opinion.

Mr. RIEHLMAN. We are trying to get at the basis of this thing. For some reason they have never been used. After the emergency was over they have been standing idle and from time to time somebody has been trying to make a decision as to what to do with them. Isn't that correct?

General MAGRUDER. Not quite, sir.

Mr. RIEHLMAN. I think our record shows pretty well that there hasn't been a tremendous urgency on the part of the Army or anyone else to move into this project until someone started stirring it up.

General MAGRUDER. I believe I am correct in saying that there has been continuous development on this product since the initiation of

procurement. We have tried to improve it. We initially went into a crash program, feeling, with the threat before us, we needed a heavy tank.

I am not a tank expert, but I believe that there is little question that, had the threat continued to grow, we would have deployed the tanks we produced.

It was not considered necessary, in the light of the threat as it existed after the tanks had been produced, to deploy those tanks as a matter of emergency. Accordingly, after we got the tanks we went through the process that we would have gone through in the first place had we had sufficient time. This was the long and difficult process of development to get the best tank we can make.

So there was a continuation of study, development, and modification after the tanks were produced to try to get a better tank. The tanks already produced were not deployed because we did not feel it was essential to deploy them in the light of the international situation.

Mr. RIEHLMAN. Is that the history of all the past procurements of tanks?

General MAGRUDER. No, sir. On some tanks we have been more deliberate and have produced better tanks on the first production run, but I think I can say it is history that after production every tank has been improved by modification. I would like to ask General Engler to confirm that.

General ENGLER. With regard to the first tanks coming off the production lines and their modification, I would say that that has always been the history of production, that the first items do have, at the time that they are placed in operations, requirements for improvements and for correction of deficiencies.

I would like also however to offer, sir, that this is not solely applicable to military products. The same principle applies to the production of commercial vehicles. There are thousands of change orders that are processed after production is initially started on a vehicle to correct a product.

Mr. RIEHLMAN. But as a rule in private industry they don't store them for several years before they start their process of putting them into remodeling and in active use?

General ENGLER. That is correct. In the case of the M–46 medium tank which was the first tank available at the time of Korea, that tank was immediately committed. Had we had need for the heavy gun tank it would have been committed immediately.

Mr. RIEHLMAN. Would it have been effective in its operation?

General ENGLER. It was effective in its operation.

Mr. HOLIFIELD. Mr. Morgan has some questions.

Mr. MORGAN. General Engler, you mentioned the Design Coordinating Committee. Can you give us the exact date that Committee was established? While looking for that would you also supply to the committee the charter or directive under which this Committee was to function?

General ENGLER. This is Mr. Hayes, the chief engineer from the Ordnance Tank Automotive Command. The question was the charter under which the Design Coordinating Committee was formed and the time of its first meeting. Do you have that data here?

Mr. HAYES. I will have to check the exact date. It was in the early stages of the T–43 development, however.

Mr. MORGAN. Development or production?

Mr. HAYES. Well, development continued through production. Early stages of development.

(The following information was furnished.)

In early 1952 the telescoped engineering and production nature of the T–48 medium tank program required close and expedited coordination between the Ordnance, user and Staff agencies concerned. This close coordination requirement resulted in a series of conferences called by Ordnance, the first of which was held in February 1952. By October 1952 after three such conferences, their mission was sufficiently clear to enable definition by Staff as T–48 tank design coordinating conferences with the express purpose of accommodating user and test agency experience and facilitating its translation into tank design engineering changes. Although conferences of this type for other vehicles were held during this period it was determined by virtue of the T–48 program's size, its "in production" status, and the scope of testing involved that the objectives and authority of the participants should be a matter of record. This was done by recorded Staff recognition of the Committee and its activity.

By late 1952 sufficient T–43 tank test agency and engineering experience had been generated to warrant engineering conferences for the T–43 tank. Because of the fundamental similarity between the T–48 and T–43, the lower density nature of the program and the fact that T–43 tank production had not reached a significant rate it was considered that formal recognition of the participants and activities provided the T–48 Committee was not necessary for the T–43 conferences. The absence of recorded Staff recognition did not detract from the effectiveness of the T–43 group which drew membership from the same agencies as the T–48 Committee and functioned in the same way.

In summary and reply to the question, Ordnance, as the Army developing and procuring agency, called T–43 engineering conferences for the purpose of expediting accommodation of test results. Engineering conferences for this purpose were called and conducted on December 11, 1952, March 31, 1953, May 26, 1953, October 22, 1953, and October 20, 1954.

Mr. MORGAN. General Westphalinger, are you familiar with the memorandum to the Chief of Staff dated December 13, 1955, from the Chairman of the Materiel Requirements Review Panel on this subject of standardization of the T–43–E1 to the M–103?

General WESTPHALINGER. Yes; I am familiar that such a memorandum exists.

Mr. MORGAN. Are you familiar with the number of modifications that were recommended in that memo?

General WESTPHALINGER. No, I am not; because I am familiar with another memo which we actually took action on which resulted in the 98 that we mentioned.

I can refresh my memory on that.

Mr. MORGAN. May I read this excerpt from that memo on the number of modifications recommended. They recommended "that the T–43–E1 be modified with 144 or less, if possible, modifications and type classified as standard."

So this subsequent agreement to modify or to incorporate 98 modifications was in effect a compromise, was it not, over this recommendation of 144?

General WESTPHALINGER. I think General Doan can speak to that. The 98 were the important ones.

General DOAN. I did not personally attend the meeting but I had a direct personal report from a CONARC representative. They went through the list of 144 and readily agreed that the difference between that and 98 were very minor items which could be thrown out, a lamp

bulb burned out or something like that. They report every single deficiency in the course of testing. And they reduced that list from the 144 to 98 and it was readily acceptable to my headquarters.

Mr. MORGAN. Can you tell us the number of modifications out of this 98 that were incorporated into the E1 to make it the M–103, that are common to the T–43–E2?

General WESTPHALINGER. I think General Engler can answer that better than General Doan.

General ENGLER. Of the total of 98 engineering changes that are required to bring the T–43–E1 to the M–103, 68 are also common to the change to the T–43–E2.

Mr. MORGAN. There are 30 modifications to the E1 to make the M–103 that would not be common to the E2?

General ENGLER. That would not be common to the E2—yes, the difference between the 68 and 98 is 30 that are not common to the E2 by reason of the fact that the improvements of the E2 do away with the parts that require modification for application to the M–103.

Secretary Higgins mentioned to me a few minutes ago, Mr. Chairman, that there may be still some question as to the difference between the M–103 and the T–43–E2. If I have not satisfied the committee with regard to that, I will make another attempt to define the difference between the two vehicles.

Mr. HOLIFIELD. I am satisfied. I wrote down the differences that you gave me. Unless there is some question in someone else's mind, we won't go into that further at this time.

Mr. HIGGINS. Mr. Fascell posed the question; are you satisfied that you have been answered?

Mr. FASCELL. Yes.

Mr. MORGAN. General McAlister, will you tell the committee the cost estimate given you by the Army to modify the Marine Corps quantity of tanks to the E2 version?

General MCALISTER. I would like to say before I give you this, that the last "i" has not been dotted on these modifications because we have not actually had our hand on the test report for the E2, so this is a rough figure. And if I am permitted, I will give you the comparisons which we have asked the Army Ordnance for of what it would cost us to have the E1 modification on our quantity of tanks. That would put it in its proper light for the committee. They said they would install on our tanks the E1 modification or bring them up to the M–103's for a rough estimate of $10.2 million. They will make the modifications to bring them to the E2 version for a cost of $15.7 million.

Mr. MORGAN. General, this figure that you quote now, $15.7 million is a little at variance from the figure you gave us the other day in your office. Will you quote the figure that you gave us that day?

General MCALISTER. $18.4 million.

Mr. MORGAN. What is the reason for the new figure now?

General MCALISTER. The deletion of some engineering charges which the Office of the Chief of Ordnance feels should be a proper charge against him. Am I incorrect in that? I see you shaking your head, General Engler.

General ENGLER. The cost of bringing the Marine Corps vehicles from the T–43–E1 standard that they now meet to the T–43–E2 is the $18.4 million that General McAlister just gave you.

In our discussions with regard to the breakdown of these costs there reposes within the costs some 2.7 millions of dollars worth of engineering to complete the T–43–E2 engineering. After discussions within Army we advised the Marine Corps that we would consider the bearing of these engineering costs by the Army. However, that matter has not been completely settled. They are still a portion of the costs and must be borne by either agency, either the Army or the Marine Corps.

Mr. MORGAN. Would you also give us a time figure on when it would be expected that these modifications would be completed if initiated immediately or within the next 30 days?

General ENGLER. Yes, sir. The actual modification would start 16 months after the decision was made to go ahead, and the modification of the vehicles would be completed by the end of the 22 months.

Mr. MORGAN. Are you familiar with the position of Headquarters CONARC in April of 1956 on the recommendation that the T–43–E1 with the 98 modifications be standardized to the M–103?

General DOAN. Yes, sir.

Mr. MORGAN. What was their position?

General DOAN. I have a copy of it here. It is a classified paper. The position was that with these modifications the tank would be satisfactory and acceptable.

Mr. MORGAN. Was not a position of nonconcurrence taken on the classification as "standard" and wasn't it recommended that the classification of "limited standard" be placed on this vehicle?

General DOAN. I cannot inform you on that, sir, I don't know. Prior to this time, as I previously stated there had been a series of nonconcurrences or rather concurrences in the Fort Knox Armored Board recommendations that the tank was not satisfactory.

Mr. MORGAN. This was an official transmittal from the headquarters of CONARC at Fort Monroe to the Secretary of the Ordnance Tank Technical Committee meeting, I guess it is, OTTCM.

General DOAN. That is why I am not in the development field.

Mr. MORGAN. Will you verify that and furnish it to the committee?

General WESTPHALINGER. We will stipulate that there is such a paper as that.

Mr. MORGAN. Will you stipulate that the recommendation was that it should be "limited standard"?

General WESTPHALINGER. We will stipulate that.

Mr. MORGAN. General Doan, can you give us the reasons cited by Headquarters, CONRAC, that it be classified as limited standard and not standard?

General DOAN. No, sir, I didn't come into the limited standard discussion personally at all.

Mr. MORGAN. General Westphalinger, will you provide us with that information?

General WESTPHALINGER. Do you want a statement as to where this occurred?

Mr. MORGAN. We want a statement from CONARC why they took the official position that it be classified limited standard instead of standard. What was their reason for the recommendation of limited standard?

General WESTPHALINGER. They were basing that on the two reports from their Armored Board tests, their technical tests.

Mr. MORGAN. Did they remove that recommendation at a subsequent date and agree to the classification of standard or were they overruled?

General WESTPHALINGER. I have General Doan here. He just testified a minute ago that CONARC reconsidered and agreed with these 98 modifications that these would be an acceptable and satisfactory change.

Mr. MORGAN. Can we document that? Will you furnish the committee with such a paper?

General WESTPHALINGER. Yes.

(The following information was supplied.)

Statement of reason why CONARC preferred to classify M–103 as limited standard instead of standard.

A classification of "standard" means an item of equipment is approved for use by all troops on a continuing basis and authorizes the necessary procurement in support of requirements. The classification of "limited standard" means that the item is approved for troop use, but that further procurement of the item cannot be made until classified as standard. It is for these reasons that CONARC preferred to classify the M–103 as "limited standard." Early in the program the Army determined that initial requirements for the M–103 tank would be limited to the quantity necessary for a limited troop test. Additional procurement of this item was not contemplated until the final result of the troop test had been analyzed and a decision made as to the troop units ultimately to be equipped with the M–103 tank. With this understanding standardization action classified the M–103 tank as standard, but with the limitation that no procurement would be initiated pending evaluation of the troop test on these vehicles. CONARC subsequently concurred in this action.

Mr. MORGAN. I would like to call the colonel representing the Transportation Corps.

General WESTPHALINGER. That paper is classified.

Mr. MORGAN. All right, sir, we will treat it as such.

General WESTPHALINGER. We will give it to you.

Mr. MORGAN. Colonel, will you give the reporter your name again, sir?

Colonel TOWNES. Colonel Morton E. Townes.

Mr. MORGAN. Are you familiar with the position taken by the Transportation Corps in April of 1956 on this same recommendation that I discussed with General Doan?

Colonel TOWNES. By hearsay. I would prefer Mr. Whilldin, who is here, give that position. He was in the Chief's office at that time.

Mr. WHILLDIN. That is on the statement of being limited standard?

Mr. HOLIFIELD. Will you give the reporter your name?

Mr. WHILLDIN. Mr. Whilldin, Office of Chief of Transportation.

Mr. MORGAN. What was the position of the Transportation Corps on the recommendation that the T–43–E1 with certain modifications be classified as standard?

Mr. WHILLDIN. We objected to it, sir.

Mr. MORGAN. What were the reasons for the Transportation Corps' objections?

Mr. WHILLDIN. The objection was based on the width of the tank in fighting condition during peacetime, that is for the movement of it.

Mr. MORGAN. Mr. Chairman, if there is no problem——

General WESTPHALINGER. May I clarify that statement?

Mr. HOLIFIELD. Go ahead.

General WESTPHALINGER. By the simple device of taking the tracks off the tank and shipping the tanks and tracks on the same flat car

overcomes the Transportation Corps' objection. That is acceptable to the combat troops so this nonconcurrence on the Transportation Board's part is to advise us that this is the situation.

Mr. MORGAN. General, that is not in agreement with my notes taken from a document that did state their position. If I may, Mr. Chairman, I will read into the record the notes that I have taken from a document dated April 24, 1956, which gave the Transportation Corps' position on this. If there is any possible area of security here, I will ask that this be inserted after being examined by the Army.

Mr. HOLIFIELD. All right.

General WESTPHALINGER. May I say, Mr. Chairman——

Mr. HOLIFIELD. We will hold this up until we determine its security status.

(The Department of the Army advised the subcommittee that the document containing Transportation Corps comments must remain classified.)

General WESTPHALINGER. The M–48 tank is exactly the same width as this and the Transportation Corps nonconcurred in the standardization of this for the same reason and the solution to the problem is taking the tank tracks off and then it can be shipped satisfactorily.

Mr. MORGAN. Nothing was stated in that position as to width; it was merely a general statement broader in nature than the mere width of the tank.

General WESTPHALINGER. What was the basis of your nonoccurrence?

Mr. WHILLDIN. As far as I know it was width.

Mr. HOLIFIELD. Mr. Whilldin, are you in concurrence with what the general said as to the solution of this matter?

Mr. WHILLDIN. Yes, sir.

Mr. MORGAN. General Westphalinger, would you care to comment as to the performance of the M–103 or the T–43–E2 versus the M–48 just in general terms, whether or not you consider the heavy gun tank superior to the medium M–48.

General WESTPHALINGER. We would be very happy to give you a lot of information in executive session and General Doan has brought up a very excellent chart here but it is classified. We will be very glad to give it to you.

Mr. MORGAN. I will reserve my questions until that time.

Mr. HOLIFIELD. Mr. Fascell?

Mr. FASCELL. General Westphalinger, you stated in your statement that this equpiment was conceived in the War Department Equipment Board report of May 29, 1946. And the military characteristics were initiated on September 21, 1948. Is this period of time usual or unusual?

General WESTPHALINGER. May I refer that question to General Engler here? He is the technician in that field.

General DOAN. I can make a statement about it.

Mr. FASCELL. All right, sir.

General DOAN. At that time I was in the development section of CONARC, that was immediately following the war and until 1948. The War Department Equipment Board report was a report that established all the requirements of the Army learned from World War II. This had everything from a Zippo lighter to a heavy tank

in it. At that time as you know, everything slowed down; the Army demobilized very much. The funds available were very limited in the development field and during that period of 2 years I think it was a normal postwar slowdown of establishing and having accepted the requirements for that original Simpson Board record.

Mr. FASCELL. Thank you. The next question I have of General Westphalinger was that with the project initiated on March 24, 1948, five test vehicles were procured in May of 1949; is that period of time usual or unusual?

General ENGLER. I would say, sir, that this period of time was usual, from the time the requirements were first developed until the requirements could be reduced to an estimate in terms of dollars of effort required and the program established and also implemented that that would not be an unusual length of time, sir.

Mr. FASCELL. Now you had your first test vehicles in early 1949 and you mockup in October of 1949. Is that period of time usual or unusual?

General ENGLER. I would say from the time the development was first funded and initiated, which was May of 1949, that in a normal sequential cycle of development it would be a minimum of 3 years from that time before product engineering would be started. And from the time product engineering is started until the first vehicle is produced would normally under a nontelescoped program be another 3 years of time.

Mr. FASCELL. In other words from May of 1949 normally you would have product engineering in 3 years which would relate this to 1952?

General ENGLER. We would start product engineering in 3 years.

Mr. FASCELL. The next 3 years would be what?

General ENGLER. Product engineering and make ready for production and start of production.

Mr. FASCELL. So that then in point of time in 1955 you would have started production?

General ENGLER. We would have the first vehicle from the production line.

Mr. FASCELL. But in this particular case by telescoping this thing you got——

General ENGLER. The first vehicle in December of 1952, sir.

Mr. FASCELL. You got your first vehicle in December 1952, so you telescoped about 3 years.

General ENGLER. That's right, sir.

Mr. FASCELL. And you got completed deliveries in 1954?

General ENGLER. Right, sir.

Mr. FASCELL. Up to this point, it would be your rating that there was nothing unusual in the lapse of time and as a matter of fact you did pretty good?

General ENGLER. From the time that we started developing until we got production, I would say we did pretty good; yes, sir.

Mr. FASCELL. Now we began a slowdown according to General Westphalinger's statement sometimes in—when was that, General Westphalinger?

General WESTPHALINGER. With the cessation of hostilities in August 1953.

Mr. FASCELL. Now you were then in the midst of crash production; is that right?

General WESTPHALINGER. That's correct.

Mr. FASCELL. What effect did the slowdown have, if any?

General WESTPHALINGER. Will you answer that, General Engler?

General ENGLER. Yes, sir; the schedule itself, the schedule of production was stretched out, a plan for the stretchout was started out in mid-calendar year 1952 and by the end of fiscal year 1953, a stretched-out schedule had been incorporated in the contract; in other words, a stretched-out production schedule.

Mr. FASCELL. You got your first deliveries in 1952 and you didn't stretch out until the middle of 1953. When had you originally contemplated complete delivery?

General ENGLER. At the time we started in December 1952 we contemplated complete deliveries by the end of November 1953.

Mr. FASCELL. And so I will assume your deliveries were on schedule before you started your stretchout, which was in July of 1953, didn't you say?

General ENGLER. Yes. In July of 1953. In July of 1953——

Mr. FASCELL. So you had 3 months of production that you stretched out for a year and 3 months, is that right?

General ENGLER. At the time of the stretchout the delivery was not on schedule, sir.

Mr. FASCELL. How far behind was it? Or to put it another way, how much production did you stretch out and over what period of time?

General ENGLER. We stretched out production over a period of 7 months, in other words, 7 months longer than we had contemplated and the percentage of production so stretched out——

Mr. FASCELL. Just roughly.

General ENGLER (continuing). Was approximately 40 percent of the production stretched out.

Mr. FASCELL. Under the conditions that existed at that time was this a normal process?

General ENGLER. Yes, sir, we planned stretchout programs for all of our items of automotive materiel in November of 1952. Programs for stretchouts of those items were finalized and approved by the Secretary of Defense in December of 1952, and stretchouts were actually incorporated into contracts in the spring to summer of 1953.

Mr. FASCELL. Now, General, you stated that the next 2 years, 1953–54, were consumed in testing and investigation and discussing deficiencies and whatnot.

General WESTPHALINGER. That's right.

Mr. FASCELL. In the meantime equipment is being stored.

General WESTPHALINGER. Yes, sir.

Mr. FASCELL. Is this period of time usual or unusual?

General WESTPHALINGER. Let me say this. We try to keep it to a minimum and we had very serious problems here; we had to develop a fix to correct these deficiencies. This does take time. If you will notice that tank there you will see that it has a tremendously long gun sticking out, and going across country that has a sizable amount of weight. It does create certain serious design problems. Particularly going across country with that moving up and down it creates stresses that are difficult to solve.

It is within the confines of a small tank. There were problems there. It did take time.

Mr. FASCELL. Well, sir, you stated that this tank is, as it came off the production line, fightable.

General WESTPHALINGER. Yes.

Mr. FASCELL. But somebody decided that instead of putting into the troops, you would store it. There must have been a reason for that.

General WESTPHALINGER. We wanted to make it the best possible tank.

Mr. FASCELL. You could do that also, could you not, even if the tank was in training?

General WESTPHALINGER. We could modify it by pulling it back from troops; yes.

Mr. FASCELL. You testified that you modify even combat vehicles, if that is necessary, as you go along?

General WESTPHALINGER. That is correct.

Mr. FASCELL. I am led to the conclusion that this is not the sole reason for storing these tanks.

General WESTPHALINGER. I think there were other considerations for storing them. It was more practical to leave those tanks there at the source of manufacture and get the modifications on them before we shipped them out.

Mr. FASCELL. In other words, your idea was to leave them right there where they could be easily modified, more economically modified?

General WESTPHALINGER. Yes, sir, to save the transportation out and also back. Had the urgency been great enough we would have shipped them over to Korea or Germany or wherever we wanted them. We would either have applied the modifications in the field or brought the tanks back as a last resort.

Mr. FASCELL. Then the complexities of the situation were such that it took 2 years or better to do all of this and this is not the way you ordinarily would like to do it. You would like to take less time than that.

General WESTPHALINGER. We don't want to take any time. That is our goal. But obviously we have to put up with the situation.

Mr. FASCELL. Now you are at the point where in 1957 the Army has decided that the vehicle can be classified and the Marines are still waiting.

General WESTPHALINGER. We did that in 1956.

General ENGLER. 1956; yes.

General WESTPHALINGER. We have modified our vehicles to the M–103 and they are almost complete. Many of them are shipped out.

Mr. FASCELL. So you have 1953, 1954, 1955, and 1956, which is really 4 years, not just 2.

General WESTPHALINGER. The production was completed in 1954.

Mr. FASCELL. But you had your vehicles being in some storage in the early part of 1953.

General WESTPHALINGER. It is nearer 2 years than 4 years, the summer of 1954.

Mr. FASCELL. I don't want to commit you to something you don't want to be committed to.

I would infer that this is a most unusual period of time.

The next statement is on page 7. You say: "The progress made in atomic warfare with its emphasis on lightweight, mobile ground units, and the advent of antitank guided missiles could not be ignored in weighing design improvements against cost."

General WESTPHALINGER. General Magruder was going to talk about that a moment ago and we decided that would be answered in executive session. Will you raise that question in executive session?

Mr. FASCELL. I am just reading your statement and stating what I think is a fair inference from it. I haven't asked my question yet.

That this unit might be in the same category as a dodo. That's the inference I get. If it is wrong you can explain it.

General WESTPHALINGER. If we gave that inference that is an unfortunate inference.

Mr. FASCELL. You talk about the economic modification of these tanks. In other words why not leave it like it is because we are past the point where the thing is usable in the present state of the art. I don't know that I am right or wrong; at least that is the inference I get.

General WESTPHALINGER. May I clarify your inference, if I can? General Magruder has already stated that this is an interim weapon.

Mr. FASCELL. All weapons are interim weapons, are they not, General?

General WESTPHALINGER. Yes.

Mr. FASCELL. The state of the art is never complete.

General WESTPHALINGER. Yes, it is a matter of degree. To our point of view we did give consideration to this sort of thing. How much consideration we gave, we would be glad to give you that.

Mr. FASCELL. I appreciate that. I just denoted a feeling of emphasis on this weapon, that's all.

Mr. HOLIFIELD. If you gentlemen will bear with us, we will try to go ahead rather than to call you back for another open hearing. I am not sure we can get through. We have no meeting on the floor today. So if the members will also be patient, we will go ahead for a little while yet.

Mr. RIEHLMAN. Mr. Chairman, could I ask one question to follow up what Mr. Fascell has been questioning here. In view of the fact, General, that you felt it would be more profitable to keep these tanks nearer the factory for the work that had to be done and new design work, and so forth, that had to be carried on, can you give the committee an idea what that has cost us to keep these tanks near the factory and keep them exercised at different periods and all the rest of the information that goes with that?

General WESTPHALINGER. General Engler has those figures.

General ENGLER. Yes, sir. The cost of the processing of these tanks and the continued maintenance up to the present time, that is up until March of 1957, was $55 per vehicle per month.

The cost of that maintenance from the 1st of March forward is estimated at $47 per vehicle per month.

This standby storage provides generally that the tanks will be checked every 90 days as to condition, the engine started and run, and the tank moved a small distance. It is then stopped and a preservative oil applied to the engine itself. Each 180 days the gun mount is gymnasticated; that is, moved back and forth. That in general is the type of surveillance that is exercised over these particular vehicles.

Mr. RIEHLMAN. Let me get this clear. Do I understand that the costs are $55 per month per vehicle for storage; does that cover the exercising?

General ENGLER. Yes, sir.

Mr. RIEHLMAN. But you have to pay for the oil?

General ENGLER. The total cost of that storage is $55, sir.

Mr. RIEHLMAN. We don't have the number of vehicles that are supposed to be stored?

General ENGLER. That is right, sir.

Mr. RIEHLMAN. But the number is not supposed to be revealed at this time, is that it?

General ENGLER. That's right.

Mr. RIEHLMAN. So we will have to estimate the eventual cost of that?

General ENGLER. I can give it to you in executive session. I have the totals here.

Mr. RIEHLMAN. This has been the cost ever since it has been stored for the past 3 years or something better per month?

General ENGLER. This is the cost from January 1953 to March of 1957, sir.

Mr. RIEHLMAN. That is per vehicle per month.

General ENGLER. That is per vehicle per month.

Mr. RIEHLMAN. That is right, if it has been 3 years, that is 36 months per vehicle.

General ENGLER. That's right.

Mr. RIEHLMAN. That would be something over eighteen to nineteen hundred dollars probably per vehicle since they have been stored there.

Mr. HOLIFIELD. It would be closer to $3,600.

Mr. MINSHALL. General, is there any particular reason why you give us these costs as per vehicle per month, whereas you have given us the overall total cost of all these tanks as a group unit rather than per vehicle per month.

General ENGLER. The reason I did it per vehicle per month is I thought it would be easier to grasp as a representative picture.

Mr. MINSHALL. $55 a month per vehicle to the general public and to me doesn't sound like very much but if you multiply that by the total number of tanks it would have an appearance of being more than that. They are not consistent.

General ENGLER. I picked that as representative of the problem.

Mr. HOLIFIELD. We shouldn't transpose it here.

General ENGLER. It would cost the same amount if stored in any other location.

Mr. MINSHALL. I think this business of withholding the number of these tanks is silly and needless. Everyone in this room, and certainly an enemy agent can go up and count them. They know where they are.

General WESTPHALINGER. That is not correct. The tanks are at several locations.

Mr. MINSHALL. I still think it is silly.

Mr. LIPSCOMB. On whose property are these vehicles stored?

General ENGLER. This is currently on the contractor's land. Chrysler acquired a portion of land adjacent to their production plant and on which was placed a modification building, a Government-owned building as well as to provide the property on which vehicles might

be stored. At the time the Government obtained a right or an option to acquire that land, at any time it desired.

The Congress has approved the acquisition of this land and it is now in the process of being acquired by the Government.

Mr. LIPSCOMB. But at the present time these vehicles are stored on private land, not Government-owned land?

General ENGLER. At the present time they are stored on private land.

Mr. LIPSCOMB. And the $55 per vehicle includes the cost of the land, the rental?

General ENGLER. The contractor has leased that land to the Government on a very nominal basis. It is a rent-free basis, sir.

Mr. LIPSCOMB. It is on a rent-free basis?

General ENGLER. Yes.

Mr. LIPSCOMB. And is the reason for the cost going down did you say, to $47 per vehicle in March, the fact that you are going to anticipate buying the land?

General ENGLER. No, sir, it has nothing to do with that. As we have gained in experience in this type of storage, we have by that experience liberalized or reduced our specifications to only require what processing or preservation we think is essential and this decrease represents a change in that requirement by reason of experience in the maintenance of these vehicles.

Mr. LIPSCOMB. What inspection do you follow through on as to the testing of these vehicles?

General ENGLER. We have Government inspectors at the location who supervise the work done by the Chrysler employees. They survey the processing work and determine that it is satisfactory.

Mr. LIPSCOMB. That is not included in the $55 cost.

General ENGLER. That is not included. The salaries of the Government inspectors are not included.

Mr. LIPSCOMB. So any of the Government costs that go into the storage of these tanks are not included in the $55 figure you gave us?

General ENGLER. No, sir, the administration of the contract that calls for this are not included.

Mr. LIPSCOMB. So there are other hidden or fringe costs that should be added to the $55 if we wanted to get the total cost of storing these tanks?

General ENGLER. Yes, sir. We don't call them hidden costs. Any contract we have with a contractor, there are costs of administering that contract that are not represented in the cost of the contract itself.

Mr. LIPSCOMB. I call them hidden because I can't see them.

Mr. HOLIFIELD. I might add, due to your changing of your formula here, they will have to remain hidden or some smart fellow can divide up your costs and get the number of tanks which you think is a security matter.

General WESTPHALINGER. It won't be hidden from you.

Mr. HOLIFIELD. Mr. Minshall is right, you are switching on reporting fees.

Mr. LIPSCOMB. $55 is not the total cost of storing the tanks.

Mr. HOLIFIELD. $55 and $47, and there are other costs, it is over $100 a month.

General ENGLER. If we had this on our own property it would cost about the same.

Mr. Chairman, if we were storing, as an observation, if we were storing these tanks on our own property then in one of our depots in open storage as we do have many tanks stored in open storage, the cost of that type of storage would be the same as this.

Mr. RIEHLMAN. Whom would you obtain to do the exercising? Wouldn't you use people in the service? You aren't using people in the service today.

General ENGLER. Were they stored at our depots, we would use civil service employees. We wouldn't use military personnel at our depots.

Mr. FASCELL. That is the whole point of the problem as I see it. Somebody decided now they will put these things in the field, heretofore they were going to store them. Until you got that decision, there was no problem, you could put them on the shelf forever.

Mr. RIEHLMAN. Is that the normal procedure, when you have equipment in storage at the base, that you have civil service employees exercise them and check them and not the personnel in the regular service? When they get in for regular service, if they go to General Clarke and go to Germany, are you going to send civil service people to exercise them?

General WESTPHALINGER. I think you have misunderstood his statement. If we took these tanks away from where they are now and took them to an Ordnance Depot where we store much of our equipment, the cost would remain the same and would be maintained by the civil service employees on duty at the depot. Now we were sending them out to Fort Hood and turning them over to the troops. Obviously the troops should take care of them and they do and will do so over in Germany.

Mr. ECKHART. Mr. Chairman, in connection with these storage costs we have talked about certain costs that recur periodically and we have not received any figure on what the costs to initially process these tanks for limited storage are, then in that the cost for deprocessing them to perform modification work and then the subsequent processing of them again.

In connection with that, I would like General Engler to explain to the committee some of these unit cost prices. Under the contract 1397 with Chrysler Corp. in the form of Supplement A, Agreement No. 11 to that contract, there are about 11 items here.

We understand that those total costs there do not reflect the cost of the 43 program because it involves both 43 and 48, but nevertheless the unit costs are the same for both vehicles.

General MAGRUDER. While General Engler is studying that may I interject one thought?

Mr. HOLIFIELD. Go right ahead.

General MAGRUDER. Our tank assets are partially in the hands of troops, partially in storage in mobilization reserve. The storage of these heavy tanks in this interim period is not strictly speaking, an added cost. For example, when these tanks are taken out of storage and shipped to the Fourth Armored Division the troops to which these tanks are issued will turn in M–48 tanks that then go into storage. In other words the overall number of tanks in storage will not be changed as a result of taking these heavy tanks out of storage. We have a specific number of troop units. Those troop units are allowed a certain number of tanks. If we give them the heavy tanks, we will

take away an equal number of medium tanks and we will still have the same number of tanks in storage.

So there is not, strictly speaking, any added cost, except for such costs as are now being brought out, special costs which may be peculiar to these tanks as differentiated from any tank in storage.

Mr. ECKHART. One distinction here, in connection with this program, is that much of this processing and storage is for a temporary period and does not represent a one-shot cost, whereas when the tanks go into the depot where they are going to be stored terminally, they will be processed once and that will be a one-shot cost and then there will be minor maintenance work after that, but these costs represent limited storage, deprocessing, limited storage again and deprocessing again on the same vehicles as it becomes necessary to do additional modification work.

That's the point in issue.

General MAGRUDER. To the extent of what you mentioned, that is an added cost.

Mr. ECKHART. Yes, sir.

Mr. FASCELL. I'd like to ask General Engler: Do I understand correctly that the Marine Corps is being charged $3.4 million for storage costs?

General ENGLER. I didn't——

Mr. FASCELL. Is the Marine Corps being charged for storage costs?

General MCALISTER. I can't give you the total amount.

Mr. FASCELL. I don't need the total amount.

General MCALISTER. Yes, we will pay when they bill us for it.

Mr. FASCELL. Based on a portion?

General MCALISTER. Yes, based on our proportion of the number of tanks.

Mr. FASCELL. The thing I still can't get in my mind, Mr. Chairman, is production ceased on this item, and here it is 1957 and it is now going into the field. It is obviously not a replacement item for any existing item. I still don't know and I probably never will whether or not there exists any requirement now. So therefore what I am at a loss to understand is why a decision wasn't made back in 1953 when the same knowledge was apparent, or 1954, to put the thing in the field, to use it up and get rid of it. I still don't comprehend that. I would like to have somebody help me out. It is obvious that what we are doing now is using this up.

Mr. RIEHLMAN. Finding a place for it.

Mr. FASCELL. That is one way to say it. I say it another way, and they say it another way. They will put it in for training and so forth. It amounts to about the same thing. We have a stock item and we have to get it out of stock. Why couldn't we have made this decision back in 1954? That is the thing I can't understand. It was a fightable item. If the requirement existed you were ready to go. Everybody has testified to that. So we are in no better or worse position today than we were then.

General MAGRUDER. May I say, sir, we are in a better position because during the subsequent period we studied this tank, we developed improvements for it and we put in the improvements.

Mr. FASCELL. Granted. Yes, sir. It could have been done while the tank was in the field, sir.

General MAGRUDER. It would have been at a greater expense. And the requirement for the tank was less urgent because of the less difficult international situation.

Mr. FASCELL. Well, of course, I can't superimpose my judgment on yours as to which is more economically feasible.

Mr. HOLIFIELD. General Engler are you about ready to give us some information.

General ENGLER. Sir, I was going to suggest that I be allowed to study these and submit a report to the committee, because there are a series of four different items here, all of which have the title "processing for limited storage" and all of which have a different dollar unit price behind them attached to a different quantity of vehicles. I do not have the data with me that would permit my analysis of these individual items so I would like the opportunity to be able to study this particular sheet and report to the committee. The figure which I gave you was the average figure as presented to me for the storage of these particular vehicles.

This includes, as Mr. Eckhart said, a combination of both the 48's and 43's, and has different prices for varying quantities of vehicles.

I cannot directly relate that to the average I gave here.

Mr. ECKHART. Can you state that supplement reflects that the costs for processing 1 tank in limited storage runs between 800 and some dollars and 900 and some dollars which would be a cost you would have on each tank?

General ENGLER. I note that. I also note an item here which has "process for standby storage" at $318 per item.

I cannot reconcile these figures with the averages that were given me, sir. I will have to study it.

Mr. HOLIFIELD. In view of the fact that you have changed your formula of reporting there, I hesitate to go into that further right at this time. So we are going to give you some time on that.

Mr. ECKHART. Mr. Chairman, in connection with this, it has been testified that the cost of the storage in a depot as distinguished from the cost at Chrysler in many respects would be substantially the same. We asked the Marine Corps to supply and they have supplied us with a statement on the cost of maintaining certain of their tanks in storage at Albany, Ga.

This was furnished by Colonel Sutter of the Marine Corps on March 21, 1957:

> There is at present at Albany, Ga., a civilian contractor preventative maintenance for certain items of equipment including tanks. This contract is for "Roto-Save" which is a device for maintaining moisture control, checking out components, and exercising moving parts. Each week the contractor checks for rust by measuring the amount of friction, the amount of friction is determined by the amount of amperage required to turn over the machine. There are no other services such as oiling performed by the contractor. The service charge is $12 per tank per month. The harness for the tank costs $40 but this harness becomes Marine Corps property after 1 year. This process is being used on a trial basis and if successful will be installed in Barstow next year.

General WESTPHALINGER. Are you trying to establish the fact that this is the complete cost of maintaining one of these tanks in open storage?

Mr. ECKHART. No; I don't think this would be complete costs but this represents a process which the Marine Corps has on a trial basis

now which appears to materially reduce the cost over anything they have previously produced or used.

General WESTPHALINGER. I think that just measures the amount of rust, isn't that right?

General ENGLER. I understand—Colonel Prosser told me we have a process similar to this on trial at present.

General WESTPHALINGER. It may not follow that the costs are indicative.

Mr. HIGGINS. If there is something good that the Marines have, we would be glad to know about it.

General WESTPHALINGER. Thank you for that; we appreciate that.

Mr. HOLIFIELD. Can we go to the facilities now? I would like to ask a few questions on the facilities.

Why was the production contract awarded before the facilities were in being?

General ENGLER. The placement of a supply contract and a facilities contract simultaneously at the start of production of a new item is common procedure, sir, which we did during Korea and in fact we still do that.

There are certain items of military materiel such as a tank which are entirely peculiar to the military and for which commercial producers do not have the facilities to produce.

In view of the fact that our orders are generally on a year-by-year basis, and manufacturers have no means of knowing the extent or duration of our orders, it is necessary that we provide the producing facilities for this type of equipment.

Now in order to——

Mr. HOLIFIELD. What was the total cost of the Chrysler facilities?

General ENGLER. The total cost of the facilities for this particular vehicle, the total cost of facilities at this particular plant, was approximately $58 million. That is in rounded-off figures. That includes the facilities for the production of both this tank and the M–48 medium tank.

Mr. HOLIFIELD. How does that correspond to the $88 million figure that was given?

General ENGLER. With what, sir?

Mr. HOLIFIELD. The $88 million figure that was given.

General ENGLER. The $88 million figure which was given, actually costed out as applied against the T–43 tank program as $50,570,000, not as the M–48 million. To that there were 8 million additional dollars from the 1948 program, the sum of the two provided the producing capacity for both vehicles.

Mr. HOLIFIELD. The $50 million was allocated to the T–43 cost?

General ENGLER. That's correct.

Mr. HOLIFIELD. Do you happen to know whether Chrysler got a quick writeoff on that or not?

General ENGLER. As far as these facilities are concerned, these were bought for the Government. We own these facilities, not Chrysler.

Mr. HOLIFIELD. You own the facilities. I thought they owned the facilities and you owned the land.

General ENGLER. No, sir; Chrysler built the building in which the the facilities are placed. The Government does not own the tank-producing building.

Mr. HOLIFIELD. We are talking about the Chrysler plant that produced the tank.

General ENGLER. That's right.

Mr. HOLIFIELD. That is owned today by the Government?

General ENGLER. No, sir; the facilities, the $50 million worth of facilities which I discussed are the machine tools and the producing equipment that produced the tank.

Mr. HOLIFIELD. Then we have to get together on what facilities means. I was thinking of the plant.

General ENGLER. The plant itself is Chrysler owned, sir.

Mr. HOLIFIELD. Now we are getting to the intent of my question which was—and I believe I may have asked it in an obscure way but what I said was, what was the total cost of the Chrysler facility?

I meant the Chrysler buildings, the plant.

General ENGLER. I do not know the investment that Chrysler has in the building itself.

Mr. HOLIFIELD. But the $50 million worth of machinery that was put in——

General ENGLER. That is Government-owned machinery.

Mr. HOLIFIELD. You do not know then whether Chrysler got a quick writeoff on their plant or not, on the building?

General ENGLER. I do not, sir. I do know that Chrysler at the time they built the building applied for a certificate of necessity, which was a tax amortization writeoff provision, and that they were granted a certificate of necessity.

Mr. HOLIFIELD. And they wrote it off in 5 years.

General ENGLER. As to whether they applied it over a 5-year write-off, I do not know, sir.

Mr. HOLIFIELD. Is there any intended definite use for the plant at this time?

General ENGLER. The plant at this time, as I understand it, sir, has been converted to the manufacture of commercial sedans.

Mr. HOLIFIELD. Now, as I understand it——

Mr. FASCELL. Ask about the rental of the equipment.

Mr. HOLIFIELD. I'm also going to get to that.

Was the machinery left in the plant?

General ENGLER. No, sir, Chrysler is not using Government-owned machinery in the plant. The machinery has been moved out and stored.

Also, sir, we have an agreement with Chrysler with regard to re-using the plant as a tank-producing plant in the event of an emergency.

That is a part of the contract arrangement.

Mr. HOLIFIELD. Now, the Lenape modification facility, that was built adjoining this plant?

General ENGLER. That is correct, sir.

Mr. HOLIFIELD. Yes. Why wasn't the plant itself used? Why did you build another facility there?

General ENGLER. The building at Lenape consists of 198,000 square feet and it was built in order to provide a Government establishment for the purpose of performing modification type work. In other words, modification work and storage facilities.

Mr. HOLIFIELD. It is built on Chrysler land.

General ENGLER. It was built on land which Chrysler initially acquired under an option to sell to the Government and with a rent-free arrangement with the Government for using the land.

Mr. HOLIFIELD. But they did not; the Government did not exercise its option.

General ENGLER. They are currently so doing, sir. The Congress has approved the purchase of the land.

Mr. HOLIFIELD. So that it will be really Government-owned land?

General ENGLER. Yes, sir.

Mr. HOLIFIELD. Regarding the location of this plant next to Chrysler; did that not in effect put Chrysler in the position of being the only people that could bid on this modification work?

General ENGLER. No, sir. We had other tank producing plants and we have provided facilities; we have as an example, the Alco Products, Inc., building medium tanks in Schenectady, and we have a Government-owned modification center located nearby that particular facility. We have several plants which are producing tanks in the Detroit area and we have a Government-owned modification center located in the vicinity; it is about 100 miles from the two plants which do the production work, but we try to provide not too far distant from the manufacturing plants facilities for the purpose of acquiring vehicle type material which is added to the tank after it is produced, storing that material, doing necessary modifications and storing the vehicles as required.

Mr. HOLIFIELD. What was the total cost of the Lenape modification center, do you know?

General ENGLER. Approximately $3 million, sir. I don't have the exact dollars and cents here.

Mr. HOLIFIELD. This modification work that we have been talking about has been done there at the Lenape plant, has it?

General ENGLER. Yes, sir.

Mr. HOLIFIELD. Does the proximity of this modification plant to the Chrysler plant preclude advertised bids for modification work or do you get this modification done in that manner?

Do you do it by negotiation?

General ENGLER. It doesn't preclude the doing of modification work at other places, sir. However, if modification work were done at other locations, the cost of transportation of the vehicles and the movement of the kits that are available would have to be taken into consideration.

Mr. HOLIFIELD. So then, as to modification costs, you are almost at the mercy of the Chrysler plant, are you not, because of this favored position they are in?

General ENGLER. Initially, when the production was planned during Korea, it was determined that in expediting production, and in the recognition of the facts that initial production would require modification that it would be most efficient and most economical to charge the producer responsible for the building of the vehicle with the necessary modification of it.

So in keeping with that plan, these modifications facilities were established at several of the plants of the producers and at the other producers they did the modification in their own plants, but the modification was made a responsibility of the producing manufacturer.

That was the plan established and was generally followed, sir. So in effect then it does mean that then we were negotiating with the responsible vehicle producer, sir.

Mr. HOLIFIELD. Have you any questions, Mr. Fascell?

Mr. FASCELL. I just dreamed up one here, as soon as I can find it. I am trying to find the date that the Marines placed their orders.

It was January 1951, June 1951 and March 1952. At that time were the Marine requirements in standards determinable?

General ENGLER. I would say at the time the Marines placed their orders the vehicle was in a state of being transferred from development to production and the final standards had not been determined.

I noted in looking at several of these design coordinating Committee meetings that the Marines had a member at these meetings.

Mr. FASCELL. Did you know at that time what the Marines wanted? Let me ask it that way?

General ENGLER. Yes, the Marines wanted the vehicle that we had conceived and which had reached a specific point of development and for which we established our requirement. They wanted the same vehicle.

Mr. FASCELL. Do I understand then that the fact that they accepted the vehicle means that you reached agreement on the changes as you went along?

General ENGLER. Agreements were reached between the various agencies as the production moved along.

Mr. FASCELL. Then what you are telling me is that the Marines' position changed from the time they placed the orders in 1951 until the present one.

General ENGLER. No, sir, these meetings took into consideration varying engineering problems as they occurred and made decisions with regard to those problems, working from drawings and from characteristics that were changed as a result of engineering that was going on. Until the vehicles were actually put out in the field, for tests, from production, I don't believe that either the Army or the Marine Corps were finally committed to the design as it was produced.

Both users certainly reserve the right to test and determine whether or not additional changes might be required.

Mr. HOLIFIELD. Could you gentlemen come back at 2:15 in executive session?

Mr. HIGGINS. Yes, sir.

General WESTPHALINGER. Mr. Chairman——

Mr. HOLIFIELD. We will start out in open session and very shortly after that we will go into executive session.

Mr. HIGGINS. Mr. Chairman, we kept General Clarke over here a day beyond arrangements he made to go back to Europe.

Mr. HOLIFIELD. I don't think it would be necessary to keep him because we will be going into the contract matter.

Mr. HIGGINS. If you could excuse General Clarke, I am sure he will appreciate it.

Mr. HOLIFIELD. We will excuse you, General Clarke, and we appreciate the fact that you have given us your time this morning, and we certainly wish you the best of luck over there in the terribly responsible job you have to do in Germany.

General CLARKE. Thank you. Very happy to have had a chance to be with you, sir.

General ENGLER. Would the chairman permit me to keep this copy and return it later?

Mr. HOLIFIELD. Yes.

One question on the record before we adjourn.

Mr. MORGAN. General Engler, you mentioned that the facilities of the Chrysler plant are now being used to assemble commercial vehicles.

The equipment there, the Government-owned equipment, the tooling, machinery and so forth was placed in storage, was it not?

General ENGLER. Yes.

Mr. MORGAN. And was that by contract?

General ENGLER. It was placed in storage by contract with Chrysler.

Mr. MORGAN. Can you tell us what that cost was?

General ENGLER. $5,027,767.

Mr. HOLIFIELD. We will reassemble in this room in open session at 2:15 for a short time.

(Whereupon, at 12:45 p. m. the hearing was recessed, to reconvene at 2:15 p. m. of the same day.)

AFTERNOON SESSION

Mr. HOLIFIELD. The subcommittee will be in order.

One question I think that we should establish, and that is, what was the total cost of the T–43 tank program?

(The following information was furnished.)

Funds allocated to the procurement of T–43 tanks

	Amount
Department of the Army:	
Fiscal year 1949	$3,500,000
Fiscal year 1950	3,360,000
Fiscal year 1951–52	100,346,937
Fiscal year 1952–53 [1]	523,477
Fiscal year 1954 [1]	3,764,000
Fiscal year 1957 [1]	150,000
Total	[2] 111,644,414
Department of the Navy (U. S. Marine Corps): [3]	
Fiscal year 1950	569,000
Fiscal year 1951	2,500,000
Fiscal year 1951	48,395,528
Fiscal year 1952 [1]	3,252,174
Fiscal year 1952 [1]	14,491,295
Fiscal year ____ [1]	1,437,975
Fiscal year ____ [1]	4,183,025
Total	74,828,997

[1] No-year funds.
[2] Includes $55 million programed for facilities.
[3] Programed to Office, Chief of Ordnance, Army.

Mr. HIGGINS. Mr. Chairman, before we go on with the regular business, may we clarify one area we felt was left in a rather cloudy or gray situation this morning?

I will ask General Engler to make a statement.

FURTHER STATEMENT OF BRIG. GEN. JEAN E. ENGLER, CHIEF, INDUSTRIAL DIVISION, OFFICE OF THE CHIEF OF ORDNANCE, DEPARTMENT OF THE ARMY

General ENGLER. Actually if I may, sir, there are two errors I would like to discuss a bit, the first with regard to the use of the Lenape Building. That building was constructed to support the total production of the Chrysler facility, that is M–48 tanks as well as T–43.

If I gave the impression it was solely for the T–43, that is incorrect. That building was built for the purpose of receiving the tanks after they had completed their test run, cleaning the tanks up, adjusting them, placing their radio equipment on, the other types of equipment that is attached to the tank before it is shipped, and getting the tank in readiness for shipment.

The modification as required is a secondary mission or was a secondary mission of the building as it was originally intended. I felt that perhaps as a result of my testimony this morning, you may have gotten the impression that this was built solely for the purpose of modifying the T–43 and that was not the reason for the building, sir.

The second point I would like to clarify, Mr. Chairman, is that the initial facilities contract that established the production equipment that was to be purchased by Chrysler to the Government's account for the producing of these vehicles was in a single contract at an estimated $89.9 million for facilities for both the production of the M–48 as well as the T–43.

Mr. HOLIFIELD. In your use of the word "facilities"——

General ENGLER. I am referring to capital production equipment, sir.

Mr. HOLIFIELD. Capital production equipment outside of plant construction cost?

General ENGLER. Outside of brick and mortar.

Mr. HOLIFIELD. Plant and mortar?

General ENGLER. That is right, sir.

Mr. HOLIFIELD. I don't think we have had facilities used like that before.

General ENGLER. Right, sir.

Mr. HOLIFIELD. "Facilities" as it has been used before has usually been an all-embracive term which included brick and mortar as well as interior.

General ENGLER. It could so include in what we call the facilities contract, sir, one which provides all of the wherewithal to produce. It could contain brick and mortar but very seldom has it done so in this particular effort during Korea.

The cost of these facilities as they have proven out is approximately $58 million.

Mr. HOLIFIELD. Does that include the brick and mortar?

General ENGLER. No, sir. I am staying away from brick and mortar completely, sir. Of the $58 million which represents the cost of this capital production equipment, the $50 million of the $58 million has remained over on the T–43 side of the program, but again that $50 million does not represent production equipment solely for the T–43.

It represents a combination of production equipment for both the T–43 and the M–48. The reason that the T–43 is not easily separable

from the other is that a single production line and facilities and production equipment, with feeder lines to produce components, was set up so that they could produce either the M–48 or the T–43.

Mr. HOLIFIELD. And were they used for both?

General ENGLER. They were used for both, sir. In fact, the M–48 production predominated at that facility. It was far in excess of T–43 heavy gun tank production, sir.

Mr. HOLIFIELD. What was the other $8 million above the $50 million?

General ENGLER. The other $8 million merely provided the total of $58 million which was required to buy the production equipment to suit that plant to produce both the 48 and the T–43.

Mr. HOLIFIELD. What was the $8 million allocated to then? You said you allocated $50 million of that to the T–43 and M–48. What was the other $8 million allocated for?

General ENGLER. It was also a part of the T–43 and M–48 program. In the administrative actions, the $50 million appeared over on the 43 side of the column although it was used both ways, and the $8 million appeared on the M–48 side of the column although it was used both ways. So it has resulted in apparent apportionment, although it is not a correct apportionment if it is interpreted as an apportionment, because that is not the magnitude of facilities for the one program as against the other.

Mr. HOLIFIELD. Of course I don't know the other factors that were involved in the allocation of the $50 million and the $8 million. When you tell us there was actually more M–48 production there than there was T–43, it would seem like it would be just the other way around, unless it was necessary to do this because of the availability of appropriations.

General ENGLER. No, sir. At the time this project was initiated, the supply contracts for the T–43 and the M–48 and the facilities contracts for both vehicles were all incorporated in one contractural instrument.

It was understood at that time that the establishment of facilities, that the buying of production equipment for this manufacturer would be performed by Chrysler on a nonprofit basis, and that as soon as the facilities could be properly defined, they would be broken out into a separate contract.

This occurrence of the $50 million on the one side and the $8 million on the other was a matter of convenience at that time. It has no relationship to the difference between the two, to the apportionment of facilities between the two vehicles.

Mr. HOLIFIELD. Confining this other question of mine to the T–43, what was the T–43 contract?

General ENGLER. The facility contract?

Mr. HOLIFIELD. No; not the facility, we have finished with that. This is for the T–43 tanks.

General ENGLER. The cost of the T–43, total cost to date less the production equipment, sir, $107,884,882.

Mr. HOLIFIELD. And of course if we added the $50 million to that, it would run it up to about $157 million?

General ENGLER. That would add it up to $158 million, sir, but that would not——

Mr. HOLIFIELD. It would not be fair because the line would be, as you have testified, it was also used on the M–48.

General ENGLER. Used for both purposes, sir.

Mr. MORGAN. Mr. Chairman, can we get the general to give us a list of the contracts that are applicable to the T–43 program?

It is the staff's understanding that there are at least seven contracts involved here. I want to know if this figure of $107 million includes all seven of those contracts.

Mr. HOLIFIELD. Could you give a general answer to that, if the $107 million figure——

General ENGLER. I have a lawyer here with the contracts, sir. Would you like to pass to another question?

Mr. HOLIFIELD. Yes. This can be furnished. You can't answer at this time whether the $107 million covers the seven contracts or not?

General ENGLER. I believe it is the total of four contracts, sir.

Mr. MORGAN. Would you refer to the contracts by number, please?

General ENGLER. We will take a few minutes. We can give you the answer in a few minutes, sir.

(The following information was furnished:)

Listing of contracts applicable to the heavy tank program:

DA 20–089 ORD 8406—Tank production.
DA 36–034 ORD 1397—Tank modification and maintenance in storage.
DA 36–034 ORD 1223—Engineering design of the tank.
DA 20–018 ORD 13627—Engineering gage design.
DA 36–034 ORD 900—Final inspection gages.
DA 36–034 ORD 2427—Supply of publications.
DA 36–034 ORD 740—Production facilities.
DA 36–034 ORD 1204—Replacement of spare parts.
DA 36–034 ORD 1245—Trainer for heavy tank.
DA 36–034 ORD 1655—Layaway of production facilities.

Mr. HOLIFIELD. Mr. Lipscomb?

Mr. LIPSCOMB. General, did I understand there was $58 million in capital production facilities?

Are those the facilities that are now in storage?

General ENGLER. They were for capital production facilities not only for Chrysler's use at Newark, Del., but in support of their subcontractor's requirements where their subcontractor performed jobs such as machining hulls and for which equipment was not available. The answer to the question, however, is that this equipment is now in storage, in layaway.

Mr. LIPSCOMB. $58 million?

General ENGLER. Except for a small portion which is installed at the Lenape plant and which has been used for this modification work.

Mr. HOLIFIELD. Mr. Roback?

Mr. ROBACK. Can you tell us how Chrysler, over the period, maintained its production organization with regard to tanks?

General ENGLER. In the first place Chrysler has not maintained a full production organization.

Mr. ROBACK. Let me put the question this way: Is the maintenance in being of the Chrysler production organization for tanks predicated upon being awarded either modification contracts or future tank contracts?

General ENGLER. Chrysler does not and cannot maintain a production organization in being without work to support that organization, and do not maintain an organization in being without such work.

Since the inception of production at Chrysler, there has been a continuity of work throughout the entire period, although since the production of complete M–48's themselves that workload has fluctuated, and recently has been a rather low workload. When they last fin-

ished making tanks at the big plant and moved their operations to Lenape, the work requirement of course dropped considerably at that point in time.

Mr. HIGGINS. Pardon me, General. When you say "tanks," identify that as the M–48's.

General ENGLER. The M–48's.

Mr. ROBACK. Was it a factor in the consideration to make the modifications on the T–43 that you did, was one of those factors the desire to keep the organization in being rather than that you needed modifications?

General ENGLER. No; none of our models of tanks have ever been modified solely for the purpose of keeping an organization in being.

Mr. ROBACK. I asked you if it was one of the factors. There was no criticism implied in the question. I was merely trying to find out the elements of modification.

General ENGLER. It was not one of the factors, sir. We have not used modification work for the purpose of keeping an organization in being.

Mr. ROBACK. Has Chrysler ever represented to you that it ought to have the modification work to keep the organization in being.

General ENGLER. Not to my knowledge, sir.

Mr. HIGGINS. This is the kind of an argument we get from our contractors all over the country. They would all like to do that, but I would like to speak here from the standpoint of Army policy, broad policy across the board.

Much as we would like to, even in our own arsenals, we do not make any attempt to stockpile know-how and labor. There is just no bottom to that pit. We either have a need for the job and do it or we shut it down, one or the other.

Mr. ROBACK. It is a fact, is it not, that Chrysler has made some proposals for modification work?

General ENGLER. They are currently doing the modification or finishing the modification of the Army T–43 tanks.

Mr. ROBACK. And they are proposing further modification work?

General ENGLER. We have asked them in the past to give us a plan with regard to the modification of the remaining vehicles. We would not get a proposal from Chrysler for this particular work until we were able to go to them and say "Here are the vehicles and this is what we want done. We want a firm proposal."

Mr. ROBACK. But you have asked for such a proposal?

General ENGLER. We have not asked for such a proposal, yet. As General McAlister stated this morning, we have not yet got together with the Marine Corps, they in turn are getting their hands on the test report, we are getting together with them and going down the list and deciding this is what we want done.

Mr. ROBACK. You have received a proposal whether you asked for it or not.

General ENGLER. We asked Chrysler for a plan for the modification of these particular vehicles, in order that we could consider ways and means of doing it.

Mr. HIGGINS. On the Army group you should make it clear we have a proposal and we are operating here.

General ENGLER. Yes, sir; we not only have a proposal, we have a contract on the Army group and we are doing them. We have received a costed plan from Chrysler for modification to the T–43–E2. I would not consider that firm enough for a proposal because we did not tell them exactly what we want done and I can hardly, in my own mind, see how they could have costed out exactly for purposes of the contract something which was still on the indefinite side.

Mr. ROBACK. What comes within the area of burden in the costing components in the proposal?

Do you understand my question?

General ENGLER. I am not sure.

Mr. ROBACK. What do you understand the word "burden" to mean in a cost proposal by Chrysler?

Does that refer to overhead and other expenses than labor and materials?

General ENGLER. Can you help me out on this? They asked me what was my understanding as to what constituted burden on Chrysler on the submission of a proposal.

Mr. KYTTLE. If the chairman will permit me, a lawyer sometimes has to be jack-of-all-trades. The burdens can be many, sir, manufacturing burden or general and administrative.

Mr. ROBACK. What is the commonsense understanding in the business world of the word "burden"?

Mr. KYTTLE. "Burden" unfortunately is not an accounting terminology as such. The proper terminology would be overhead in which you would have manufacturing overhead. You could also have, of course, an engineering department overhead, and you may even have as we have been speaking about this morning, a testing division overhead.

You would have three or more overheads in any corporation the size of Chrysler.

That is what I am leading up to.

Mr. ROBACK. I have before me a costing or what appears to be a cost proposal by Chrysler with regard to modernization, and it has besides material and labor and processing and special tools and general administrative and markup, it has burden, which amounts to 30 to 40 percent of the total proposal.

The question is based upon the previous question whether this proposal for modification is geared to keeping an organization in being, and I am not raising any criticism about it, but whether it is geared to the costs of doing the work.

General ENGLER. As far as we are concerned, the proposal on the part of the Chrysler Corp. is for the cost of doing the work, and I would expect that our cost analysts would examine that proposal, and if they felt there was included in it something that should not be there, that would be up to us to negotiate out with the contractor.

I am not aware of the details of this proposal, and I don't know what they have put in their burden as a part of burden.

Mr. ROBACK. Would a 30- to 40-percent burden be an unreasonable burden or could you not tell that? I mean as a general proposition is that an excessive burden?

General ENGLER. I would expect to and have seen burdens from commercial contractors that range in the area of 125 to 175 percent of direct labor. I don't know——

Mr. ROBACK. This burden is 4 or 5 times the direct labor cost, roughly, here?

Mr. HIGGINS. I think you should find out what this is and see what we are talking about here. I don't know what this document is.

General ENGLER. You are discussing a proposal against which we have not written a contract. It was used for planning purposes, as I say, and is not currently being used for a contractual purpose.

Mr. ROBACK. I have not mentioned the figures.

We are talking in terms of percentage.

General WESTPHALINGER. This paper has not been accepted by the Ordnance.

Mr. HOLIFIELD. This is a proposal of the Chrysler Corp. under date of February 20.

General ENGLER. We have used it for planning purposes, sir, but it is not a proposal for contract purposes.

General WESTPHALINGER. You have not implemented it into a contract so you have not accepted it?

Mr. HOLIFIELD. We are not saying that you should not accept it. The staff director was asking you——

General ENGLER. I would be very glad, sir, to have that burden analyzed and give our opinion of it. I am not familiar with it and I am hard put to do it here at this time.

(The following information was supplied.)

Explanation of burden rate on the Chrysler proposal for modification of T–43–E2 tanks.

In connection with this proposal it is desired to point out that the burden rate in the proposal submitted by Chrysler has not been negotiated with the company nor has a contract been signed for the modification program. It is therefore difficult to explain the burden rate submitted by Chrysler until conclusion of negotiations and signing of a contract. However in connection with burden it should be remembered that burden is related to the amount of direct labor involved and that Lenape Ordnance Modification Center is a rather large Government-owned building and has a relatively fixed overhead operating expense for its operation regardless of the amount of work being performed at the LOM Center and that the percent of burden is at all times related to the amount of direct labor work in process at the LOM Center. In general, the burden consists of utility costs, testing, transportation, labor fringe benefits, cost of labor wage adjustments, security, fire and safety programs, plus the necessary materials, clerical and accounting costs, etc., that cannot be specifically charged to a particular operation but is rather an expense chargeable to all operations in the plant at the particular time under consideration. Therefore, it is difficult to make a statement in explanation of a proposed burden rate until negotiations have been completed. The amount of burden charged in the instant procurement is an item that will receive careful consideration and is subject to negotiation consistent with the conditions existing in the facility during the period of performance of a contemplated contract.

Mr. HOLIFIELD. This is 500 percent on the burden in the place of 125 percent as you testified, and that was an item that caught our attention because it did seem unusually high.

However, upon analysis there might be reasons for it.

Mr. MORGAN. Mr. Chairman, Mr. Roback asked if any consideration was given to maintaining the facility in being in awarding this modification contract, and the answer, I believe by General Engler, was that this was not one of the considerations; is that correct?

General ENGLER. We would consider maintaining the production equipment that is in that building—in the building and available for a subsequent modification contract; yes.

Mr. MORGAN. Mr. Chairman, at this point I think this unclassified message from Colonel Whitehouse should be read.

CHIEF OF ORDNANCE,
DEPARTMENT OF THE ARMY,
Washington, D. C.

Reference: ORDIT to OTAC, March 6, 1956, TTO 5047 and March 29, 1956, Major Ferris, Mr. Weir (Telecon).

To COMMANDING GENERAL,
Ordnance Tank Automotive Command, Detroit, Mich.:

Because of indicated urgency related to retention of personnel, obviating shutdown possibility, carrying forward of modification building clearance, and meeting July 1956 start of work target, your command is authorized to continue with negotiation and execution of a modification contract with the Army portion of the T–43–E–1 tank inventory as indicated in reference TT. The negotiated contract should be kept sufficiently open to provide for optimum cost quantity program, should it be decided that the United States Marine Corp quantity be modified in part or in toto along with the Army quantity.

That was typed March 29, 1956.

General ENGLER. That certainly is not incompatible with my previous statement.

My statement was that we do not, and have not by policy, planned to maintain a production organization solely for the purpose of having vehicles modified for the purpose of maintaining a production organization.

Now if it is our plan as the most economical way of doing this modification work of having it done by Chrysler at this particular facility, and if by some manner or means we could avoid laying off and rehiring of personnel in order to save money in having that modification work performed, I am certain that we would consider all ways and means in which we could have the job done at the total least cost to the Government.

Mr. ROBACK. You are already estopped from getting a measure of what the cost would be through competitive proposals. You are already estopped from doing that. This is no criticism of Chrysler. We are just trying to find out what the arrangement is.

General ENGLER. We have considered that the performance of this modification work by the manufacturer who has been responsible for the production engineering for the vehicle, who has followed the operation of the vehicle and the tests of the vehicle through its life, who has already had responsibility and has purchased kits for the application of the common changes and for which the kits are currently available at Newark, Del., as well as the vehicles themselves to be modified, that the most efficient and the most overall economical way of doing it is to have it done by them at that location.

In our last analysis we still feel that that holds.

Now if the modification were postponed another year beyond that which is now contemplated, we might change our analysis.

However, the last analysis by our Ordnance Tank Automotive Command has been that the best way to have this job done and get what we want is to have it done by Chrysler at the plant at Lenape.

Mr. HOLIFIELD. Those contracts of that type are made under the renegotiation clause, are they not?

General ENGLER. They are subject to the overall Renegotiation Act; yes, sir.

Mr. HOLIFIELD. In other words, even though there be in effect a negotiated contract, you scrutinize them to see that they are fair contracts or fair prices, and they are subject, are they not, to renegotiation if there is an exorbitant price involved?

General ENGLER. We ourselves, sir, don't actually take part in the application of the Renegotiation Act.

However, from our standpoint in a negotiated contract of this type, we ask for considerable information with regard to the elements that go to make up cost.

We have our price analysis people and our cost review and analysis people go over those elements thoroughly to satisfy ourselves that in effect it is a fair price.

We do, as a general rule in this type of contract, ask for a repricing clause.

This is not renegotiation. This is redetermination, sir, which permits us to redetermine the price of that contract during performance or after performance, and to have our auditors audit the account so that we can get back for the Government whatever amounts are considered as due the Government.

But this is repricing as against renegotiation, sir.

It is different.

Mr. ECKHART. Earlier this morning, General, you mentioned if a contract were let with the Chrysler Corp. now to modify the tanks, it would take 16 months to get it into the works and modifications would be completed in 22 months.

General ENGLER. Yes, sir.

General MCALISTER. I had hoped that this would be clarified for the Marine Corps' tanks.

Mr. ECKHART. Assuming that Chrysler should be awarded a production contract for the M–48 tanks and elected to use the Lenape plant for the production run, would that in any way alter the schedule?

General ENGLER. In our planning studies with the Chrysler Corp., we, of course, recognize that that is something that could happen, and we have asked them in our queries to them as to whether or not, in the event they received a production contract, would this work or this schedule interfere with the production contract, and the answer has been "No."

I would like to make one other point, too, sir, and that is that we don't propose to wait for 16 months before any of this modification work would start.

In our plan we have common modifications as was discussed this morning, which can be immediately applied to these vehicles and for which we have parts on hand to apply those common modifications.

In our studies we have studied 4 or 5 different alternative ways of doing this job. One is to wait and not do anything until after we get all the parts, and all the kits.

Another way would be to start the common modifications as soon as possible, and then phase into the addition of the longer lead-time items at a later phase.

That, of course, is only a realistic plan if it can so be done without interfering with the work which you have done in your first phases. Otherwise it would be more costly.

After an analysis of these various ways and means, it is currently our plan to permit them to go ahead with these common modifications,

and by the time they get that program well underway, the longer lead-time components will be coming in to permit the addition of those.

This can be done, as per our studies, without duplication of effort, and to the overall advantage of the Government.

That kind of thing is taken into consideration. I didn't mean to imply that we are doing these common modifications solely to keep an organization together when it would be cheaper if we just moved the whole job out of there.

Our analysis, I think, is relatively complete; and we think this is the way to do it, sir.

Mr. ECKHART. Earlier this morning, General, you indicated that there was a modification plant adjacent to the locomotive company facilities.

General ENGLER. Yes.

Mr. ECKHART. Is that a fact?

General WESTPHALINGER. Yes, sir, I can speak to that.

Mr. ECKHART. I was furnished information to the contrary a few days ago and I just want to make it clear on the record.

General WESTPHALINGER. They have a Niskayuna plant at ALCO.

Mr. ECKHART. That is a Government facility.

General WESTPHALINGER. Yes, sir.

I was the contracting officer up there and that is the plant there. It is still in being, a thousand feet long and 120 feet wide right on the test rack.

General ENGLER. It is about 3 miles away from the manufacturing plant. We consider that adjacent.

Mr. HOLIFIELD. Are there any further questions?

Mr. MORGAN. Mr. Chairman, this morning I asked General Engler if he would give us the costs under the contract, the layaway contract at Chrysler plant.

Do you have that now, General?

General ENGLER. The total layaway costs of the Chrysler package, and which include the first year of maintenance, are $5,027,767.

Mr. MORGAN. That includes the equipment for the M–48 as well as the T–43, is that right?

General ENGLER. That is the whole complete package, sir.

Mr. MORGAN. If Chrysler is successful in acquiring the production contract for additional M–48 tanks, which we understand is now currently under negotiation, what would be the cost of restoring these facilities to production base?

General ENGLER. You have led into the very answer I was going to give you before, sir, because actually we have spent a total of some $8.5 million for layaway at Chrysler, but 3.5 was for a re-layaway after they went into production once before.

Now, again our policies have been that when a manufacturer is laid away the first time, the Government is responsible for the cost of that layaway. That is on the premise that at some point in time we will have enough material to suffice to meet our needs, and we will have all of our facilities laid away.

However, we have, as we have gone down through the years, in order to generate competition, we have had producers who were in layaway to offer proposals for supply contracts.

We appreciate that if that producer came back into production, he would reactivate a part of his facility and it would mean that we would have to layaway that part the second time.

So we charge that second cost of layaway against his proposal, so in fact he must be lower than his competitor not only on unit price but by a sufficient amount of dollars so that we can save sufficient production funds to re-layaway him the second time and still get it at a cheaper price.

Mr. MORGAN. General, you mentioned also this morning that the brick and mortar facility used by Chrysler to produce the M–48 and the T–43 tanks is now currently being used to assemble commercial vehicles.

General ENGLER. That is correct, sir.

Mr. MORGAN. Where would the production work be done on the M–48 tanks if Chrysler is awarded the contract?

General ENGLER. I am first going to say, sir, that as far as the prime contractor is concerned, he could do the production work wherever he saw fit.

It is my understanding that his plans are that he will assemble, only assemble the M–48 tanks in the Lenape facility. However, this does not give him adequate facilities space, adequate brick and mortar, for all of the work that he does as a prime contractor, and I understand he proposes to acquire space otherwise in that locality.

I am not familiar with the details.

Mr. HOLIFIELD. Would you build him another building and give him a tax amortization deal on it?

General ENGLER. We would not, sir.

Mr. HOLIFIELD. So he could accumulate another building like he did the first one?

General ENGLER. No, sir; we would not.

Mr. HOLIFIELD. Why wouldn't we? If you don't give it to him you might have to give it to somebody else.

General ENGLER. We would not, sir; because we have created adequate facilities, there are adequate facilities created for these producers to meet the current requirements, and the competition for current requirements is strictly on a competitive basis.

As far as equipment is concerned, we do make available the equipment which we have already acquired, because otherwise we wouldn't be able to get these producers to build.

As far as brick and mortar is concerned, they are permitted to use brick and mortar which was necessary to acquire during Korea and which already rests on the premises.

Our policy is dead set against the acquisition of any brick and mortar unless it is absolutely impossible to get the job done otherwise, sir.

Mr. ROBACK. May I ask——

Mr. HOLIFIELD. Before you ask your question, let me finish up on this by asking you this: Your concern would not necessarily be the provision of brick and mortar facilities. That would be the concern of the successful bidder?

General ENGLER. That is correct, sir.

Mr. HOLIFIELD. And there would be nothing to keep them from going independently to ODM and getting a certificate of necessity, would there?

General ENGLER. There would be nothing to prevent them from asking for it, sir.

Mr. HOLIFIELD. Would you have to certify it?

General ENGLER. We don't have to certify, sir. However, as a general policy ODM will not approve a certificate of necessity for a facility to be used by one of the military services without asking that service for their support of that certificate of necessity.

That is still in effect, sir, I am certain.

Mr. HOLIFIELD. So your policy is, in view of the fact that you have already granted them one construction certificate of necessity there to this previous contract, that you would not grant them a second one?

General ENGLER. We certainly would not, sir.

Mr. HOLIFIELD. Even though they had amortized their brick and mortar and had converted it to civilian use, you still would not approve a certificate of necessity?

General ENGLER. That is correct, sir.

Mr. HOLIFIELD. That in effect means that you would expect them to go back in and use that original facility, does it not, or provide at their own expense additional facilities?

General ENGLER. Yes, sir.

Mr. HOLIFIELD. Additional brick and mortar.

General ENGLER. Unless we had brick and mortar already built that could be used, sir, that was available.

I would like to make one other point. During the period of the certificates of necessity, sir, it was our policy that we still require that the facilities themselves be costed out at a regular amortization rate, not at accelerated amortization. That so appears in our contract.

Mr. HOLIFIELD. Not at the 5-year rate.

General ENGLER. No, sir. That is only for tax amortization purposes, sir.

Mr. HOLIFIELD. That is for costing purposes. They still get the writeoff from the standpoint of their investment.

General ENGLER. Yes, sir.

Mr. ROBACK. General Engler, it was testified that since this is an item that is not in commercial production, it is a policy of the Government to provide facilities and also in another department of Government to provide tax incentive.

Is it part of the incentive system for a producer, that when he signs a contract to produce tanks, that he does not do it according to performance specifications, so that in effect whatever he does, as long as the material and design specifications technically are met, even if the tank is no good, he is relieved of any obligation?

General ENGLER. He manufactures tanks according to detailed manufacturers' drawings and specifications in support of those drawings.

This is somewhat different from the way we buy wheeled vehicles where we use a general performance specification and the manufacturer design and uses his own components to make a vehicle perform in accordance with the specifications.

We cannot do that and don't do it in the case of a combat vehicle. In the case of a combat vehicle where all of the elements have to be designed specially and specifically for the military, the manufacturer receives his drawings, these detailed manufacture drawings from the engineering agency. All manufacturers of tanks receive the same drawings so they are getting the specific detailed specifications under which they may manufacture. The procedure has no freedom of move-

ment of his own part except as it is approved by our engineering people.

Mr. ROBACK. Why aren't the military characteristics translated into performance specifications?

General ENGLER. Generally, the purpose of a performance specification is to allow the manufacturer leeway in the components which he will assemble together in order to come up with performance.

In the case of a combat vehicle, our engineers working with an engineering agency design the vehicle themselves and compute engineeringwise the performance which they will get out of those components and those assemblies designed in detail by Ordnance. Of course, we use commercial agencies to assist us in that engineering, but we are the reviewing and approving authority so we control that engineering.

Mr. ROBACK. But in this case is it not the fact that the producer is also in part the engineer?

General ENGLER. In this particular case we had a contract with the Chrysler Corp. to perform the design engineering work for us for both the M–48 tank as well as the T–43. The reason we picked one concern to do both is because there are a lot of common components that are used in both vehicles. We want standardization. We want minimum parts to support these vehicles in the field, so we wanted to get the same parts.

So we had one engineering agency responsible for both vehicles. Chrysler, working in Detroit with an engineering staff that performs under contract for us, engineered these vehicles not only for production by Chrysler but Ford and Fisher and American Locomotive who all produced against the engineering that was generated by Chrysler at Detroit. They did the engineering for everybody.

Mr. ROBACK. To the extent that the tank had deficiencies or was unsuitable for combat operation, to what extent was the responsibility that of Chrysler as an engineer?

General ENGLER. I would say that the responsibility of Chrysler as an engineering concern would only exist if, in the application of their engineering talent and know-how, they made mistakes or they made errors which we would not reasonably be assumed to be able to pick up in our review and analysis, and which we could prove were the result of bad and unreasonable engineering practices on their part. This I don't think holds. They are a good engineering concern and their work has been excellent.

Mr. MORGAN. Does the Army feel that the contractor in this instance has complied fully with the terms of the engineering and the supply contract?

General ENGLER. My answer is "Yes."

Mr. MORGAN. The Army feels that they did comply fully with the contract?

General ENGLER. They complied fully with the contract, yes.

Mr. MORGAN. The terms of the contract?

General ENGLER. The terms of the contract.

Mr. MORGAN. In the supply contract under title 1, article 2 (a), reimbursement for contractors expenditures, there is an item there that says, "At completion or termination of this contract the parties shall negotiate a sum or sums to be paid to the contractor for the preservation of such books, records and other papers," referring here to the

3-year period after completion of the contract or termination of the contract, that the records are available to the Government for inspection.

Is this normal procedure for the Government to pay for such preservation of records for this 3-year period?

General ENGLER. I am sure that these records referred to in this contract are the process sheets, the tooling design, the process sheets, the operating route sheets that the manufacturer accumulates for the purpose of his production.

Mr. MORGAN. General, let me read to you the first part of that paragraph which I omitted:

"The contractor hereby agrees to keep records and books of account on a standard commercial cost accounting basis," and so forth.

General ENGLER. That is for repricing purposes, sir.

Mr. ROBACK. Those documents are required to be kept by public law, are they not?

General ENGLER. I believe so, sir, for repricing purposes.

Mr. ROBACK. Then do you negotiate with the contractor to reimburse him for keeping records required by law?

Mr. KYTTLE. We cannot hold a contractor as a cost of doing business for keeping records in accordance with a Government requirement.

We have found most corporations saying they have to keep two sets of books. One is required by the Government in order to make audits and another is their normal commercial set of books.

I think you will find that is true of most commercial organizations and small business.

Mr. ROBACK. Is it the usual practice to negotiate separately for the cost of keeping records required by law or alternatively do you not negotiate that when it is thrown in somewhere in the price of the item ordinarily?

Mr. KYTTLE. Again, if I don't sound like I am leading you around the mulberry bush we reserve the right to approve his accounting record.

Prior to approval we may either say they are sufficient and, therefore, the contractor may only charge an overhead charge across the board of which we bear a proportionate part. Or in some cases we may disapprove, as we do through the Army Audit Agency and sometimes even through the recommendations of the General Accounting Office, his method of keeping accounting records, and he has to increase his type of bookkeeping.

In those cases we would probably negotiate with him to bear a greater proportion at cost. But I would seriously doubt at any time we agree that we bear 100 percent.

In conclusion, I desire to point out that we bear a proportionate overhead charge, general and administrative, for his accounting and not as a direct-labor charge.

Mr. ROBACK. Since we are dealing with some of the incidental costs of the contract, Mr. Chairman, I would like to get a response to the question why the Government transferred to the Chrysler Corp. two electric typewriters as Government-furnished property.

General ENGLER. I do not know the answer to that question sir.

General WESTPHALINGER. Are we accused of doing that?

Mr. ROBACK. You are.

Mr. MORGAN. It is in the contract.

Mr. HIGGINS. It is in the contract, you say?

General ENGLER. We shall look into it, sir, and give you an answer.

(The following information was supplied:)

This contract under title I provides for purchase of Government facilities, including office equipment. This was later transferred in its entirety to Contract DA–36–034–ORD–740.

In the performance of this contract, many purchasing, accounting, and inspection reports are required in 10 to 12 copies, such as requisitions, final inspection reports, purchase orders, surplus property lists, and many others. To make sufficient legible copies, it is necessary to use an electric typewriter or retype the report.

The procurement of the typewriters was approved by the Contracting Officer as necessary to handle the volume of multicopy actions of this and related contracts. They remain Government property and are used on Government work.

Mr. HIGGINS. May I ask that you investigate this particular thing surrounding this. I would like very much myself to know this.

Mr. HOLIFIELD. It is a minor detail but it is interesting.

Mr. MORGAN. In the delivery schedule of the T–43 pilot model, again this is contained in the contract 8406, it is asked that pilot No. 1 be scheduled for delivery in October of 1951.

Then it is later stated, "It is understood the contractor will use his best efforts to comply with the above estimated delivery schedule but makes no guaranty regarding such schedule."

My question is:

Is this normal procedure to allow such an elastic delivery schedule on an item that might be considered a preproduction sample?

General ENGLER. It is not unusual in a pilot model, sir, particularly if in the process of manufacture there are decisions to effect changes before the pilot model is completed.

General WESTPHALINGER. May I add we have made best effort contracts with other manufacturers, notably ALCO.

Mr. MORGAN. What I was trying to establish was whether or not this was fairly common in tank procurement, to insert a best-effort clause such as this.

General WESTPHALINGER. It was at that time.

General ENGLER. It would be in a pilot vehicle contract, sir. It would not be unusual in that.

General WESTPHALINGER. You will recall the time you are talking about is the period of crash programs where some of the engineering had not been completed.

We could not guarantee the contractor that he was going to start here and go through with a well-engineered tank. We got the best effort out of them this way. Today we have definite schedules for our tank programs.

General ENGLER. Could I give the committee the identification of these contracts now, sir, or would you like me to hold that until later?

Mr. HOLIFIELD. You can give them now.

General ENGLER. We have had a total of five contracts with Chrysler, the fifth of which is a layaway contract which we just discussed.

The layaway contract itself was not included in the $107 million which I gave you as a total cost, so the $107 million is made up of four basic contracts which I will identify.

The engineering service contract was A–36–034–ORD–1223.

Mr. MORGAN. General, I think you could just read the last four digits for identification.

General ENGLER. All right, sir.

The production or supply contract, 8406, the modification and storage contract, 1397, the facilities contract, 740.

Then in order to have the list complete, the layaway contract is 1655.

Mr. MORGAN. General, I would like to refer you to contract 1204–T dated January 23, 1953, which calls for replacement of deteriorated parts.

General WESTPHALINGER. May we look into this and submit a statement for the record on this?

(The following information was supplied.)

(*a*) This contract provides for the furnishing of replacement parts that have deteriorated in storage on the M–48 and T–43 tanks.
(*b*) Funds expended to date: $564,371.76

Mr. MORGAN. I also call your attention to contract No. 13627, which was an engineering contract, cost plus fixed fee, which subsequently replaced 1223.

We would like to know the costs involved under that contract as well as 1204.

General ENGLER. All right, sir. That is 13627?

Mr. MORGAN. Right.

General WESTPHALINGER. May we submit that for the record and any explanation that is appropriate?

Mr. HOLIFIELD. Yes, General.

(The following information was supplied:)

CONTRACT DA–20–018–ORD–13627

(*a*) This contract provides for various engineering projects, including services, and gage engineering services for the following three vehicles:
(1) M–48 medium tank.
(2) M–103 (T–43) heavy tank.
(3) M–51 recovery vehicle.
(*b*) Funds expended to date: $6,013,844.

Mr. MORGAN. Getting back to 8406, under the section "Testing of pilot models," the contract says, "The contractor will perform such tests of the pilot models tanks 120 millimeter gun T–43 in accordance with the general specifications as attached hereto or as contracting officer may direct."

The question is what tests were conducted by Chrysler on the pilot model T–43, if any?

General ENGLER. I wonder if I could have Mr. Joseph Hayes, our engineer, give some information on that.

STATEMENT OF JOSEPH HAYES, CHIEF ENGINEER, ORDNANCE TANK AUTOMOTIVE COMMAND

Mr. HAYES. I am Joseph Hayes, Chief Engineer of the Automotive Command. The type of tests ordinarily performed at a manufacturer's plant are those tests in the specifications that can be performed in the nearby test loop or test track.

They are tests such as acceleration from a dead stop in accordance with the specifications, top speed, braking ability, and so on.

They do not represent the engineering tests which involve cross-country durability tests, proof firing of the gun, and so on, that are performed later at an ordnance establishment.

Mr. MORGAN. Could these be termed automotive tests primarily?

Mr. HAYES. They are merely a portion of the automotive tests. The automotive tests include the full durability testing at the ordnance test establishment.

Mr. MORGAN. In other words, these tests would not reveal any deficiencies in the fire-control or turret-control mechanism?

Mr. HAYES. They would reveal any complete deficiencies such as the inability of the turret to traverse at all, but as for the rates and the ability of the traversing mechanism to live under a durability type of test, they would definitely not indicate.

Mr. MINSHALL. May I ask: Have you ever had any similar difficulties with other tank contracts such as you have had on the T–43?

Mr. HAYES. Do I understand your difficulties are in reference to the turret performance, for instance?

Mr. MINSHALL. That is correct.

Mr. HAYES. Yes, we have had them in other vehicles.

Mr. MINSHALL. In view of that, why haven't they checked these turret weaknesses out before they get so far into production, with the pilot model?

Mr. HAYES. We do check them out. However, going back to when these deficiencies were occurring, it was at the same period that I am talking that we had the deficiencies and the difficulties in other vehicles.

There were other tanks being developed at the same time.

Mr. MINSHALL. My point is this: In contracts prior to this T–43 tank contract, you have had serious difficulties with turrets and firing mechanisms on other types of tanks, have you not?

Mr. HAYES. We have had, but not with the similar types of systems that was in this tank.

Mr. MINSHALL. The same basic malfunction or part that didn't work right, is that a fair statement?

Mr. HAYES. No, sir, it is not. It is true they each had a turret, the older tanks and the new tanks have a turret, for instance, but the degree of fineness of control of that turret was established during the period that——

Mr. MINSHALL. In other words, all you have ever done then with the pilot tank at the plant is to check it out for acceleration and the other very basic tests.

You have never gone into the finer points of rotating the turret and checking the firing mechanism and all that until you got it out at an ordnance proving ground, is that correct?

Mr. HAYES. In the first pilots, yes, that is true. However, subsequent to the initiation of production, we do establish some acceptance level type of testing at the production source.

Mr. MINSHALL. In view of your previous experience of bungling, if I may call it that, why haven't you gone ahead then and checked these other things out that you knew might be in error from an engineering standpoint?

General ENGLER. We wouldn't build a facility of the type which would be required to do all that work at each one of our producing plants.

It would be a very, very expensive facility.

Mr. MINSHALL. This is a very expensive operation.

Now, you have got a whole bunch of tanks that are no good at all.

General ENGLER. That is correct, sir, but the pilot——

General WESTPHALINGER. No, no; we violently object to that, sir.

General ENGLER. I don't agree with that statement, sir.

Mr. MINSHALL. I agree with your answer, though.

General ENGLER. No, sir, I withdraw that answer. What I wish to say, sir——

Mr. MINSHALL. The question still stands.

General ENGLER. The pilot is checked at the plant to see to it that insofar as the availability of facilities at the plant are concerned, that it is functionable.

It then is moved to a test or proving ground for all of these tests that you refer to.

No, we have got to do that job at a proving ground. We don't have the space and we don't have the facilities to do it at a manufacturing plant and we can check it at the proving ground.

Mr. MINSHALL. General, a little knowledge is a dangerous thing and all the knowledge I have about this is what I actually know about similar experiences you have had with the construction of tanks, especially in your Cadillac tank plant in Cleveland.

You had the same difficulty with a light tank in the Cleveland Cadillac tank plant.

General WESTPHALINGER. Mr. Minshall, may I make a statement at this time?

Mr. MINSHALL. Yes.

General WESTPHALINGER. I think you have to start with——

Mr. MINSHALL. Let me ask the General this. Do you know about the Cadillac light tank? I have forgotten the number. I think it was the Patton tank.

General ENGLER. The T–41 and finally standardized as the M–41.

Mr. MINSHALL. But that particular tank, they had to abandon that program too and make a lot of necessary modifications.

General ENGLER. No, sir, there was no abandonment of the M–41 tank program.

Mr. MINSHALL. The turret wouldn't turn, function properly, I do know that.

General ENGLER. Insofar as I know we had no trouble with traversing the turret. When the initial production of that vehicle started there was some problem in obtaining the overall tolerances with regard to fire control system backlash that was required. That was resolved relatively early in the program, and that tank was not subjected to the type of difficulty that you refer to.

Mr. MINSHALL. My whole thought on the question is this. Here you have had previous experiences with bad engineering, and the fault goes right to the fact that there has been improper testing of the rotating of the turret and the other finer points, before you got well along in production and then you had many, many tanks made, and in this case we can't discuss the number, but here you have a lot of tanks that you just said were no good, and I wonder what is going to be done in the future to protect the taxpayer.

General ENGLER. I haven't said we had a lot of tanks that were no good, sir. Our tanks have been usable, as was said before, from the very start of production.

We have attempted to refine them as we went along and to get the ultimate in refinement. The engineering in my opinion was not bad. It was very good engineering. It was entirely a question of telescoping from development into production.

Engineering is still in some substance a matter of cut and try. You still have to, after you get through engineering, you still have to build it, you still have to take it out and operate it before you are sure it is absolutely correct.

Now, when you telescope production and engineering, you take the risk of coming up with difficulties in your initial production.

However, I will say that our engineering has been above par because the vehicles as they are first produced without exception have been usable if they were required.

Now, we have refined them. As the engineering progressed, we have attempted to incorporate those refinements. We have not denied our troops vehicles, however, while we were waiting for refinement.

We had time to make these refinements and we have done it.

Mr. MINSHALL. General, don't misunderstand me. This is in no way a personal attack on you. I have admired you and your testimony here today for its candor and your forthrightness, but what disturbs me greatly is the fact that I have known from common knowledge, I have been at the Cadillac tank plant in Cleveland, I have read it in the newspapers, I have heard about this situation and I am wondering what is being done to prevent situations like this from happening in the future.

General ENGLER. The only thing I can say, sir, is that if we had an emergency, there is not much question in my mind but what we would probably again be telescoping development and production.

When we don't have an emergency, we attempt to develop and to test and to prove our engineering before we go to our production engineering, and that is the best way to do it if you have got the time to do it.

Mr. MINSHALL. General Westphalinger here today said that one of the basic faults with this T–43 tank was the fact that the tube was too long and the thing was all out of balance and on cross country it tended to jam.

General WESTPHALINGER. No, sir, I did not say it was too long.

Mr. MINSHALL. It was too heavy or something.

General WESTPHALINGER. I said it presented a difficult problem mechanically, which is entirely different than having a tube too long. It does create difficult problems, there is no question about that. I stand by that statement.

Mr. MINSHALL. Can you within the realm of security tell us what those problems were?

Mr. HOLIFIELD. We are going into executive session.

General WESTPHALINGER. I don't think you have to go into security to see that that is a great big long piece of metal that weighs a considerable amount, and as that tank goes over uneven ground——

Mr. MINSHALL. Why didn't they figure that out when they were designing the thing?

General WESTPHALINGER. But we want that long a barrel so we have more penetrating power. We want it.

Mr. MINSHALL. If it is not going to stay on, if it is going to fall off, it doesn't make any sense.

General WESTPHALINGER. It does stay on.

Mr. HIGGINS. Bill, let me try to clear this up, will you please?

Just before I came to Washington, 6 months before I came to Washington, I bought a new automobile and when I came to a red light the engine stopped and it wouldn't start.

Here is a company that has built literally hundreds of thousands of engines, and if anyone was out of patience about anything, it was I. They had to come and exchange the carburation system before it would start.

Now, I say how in the world can this happen with the laboratories, the engineers and all the real high-powered people that an automobile company has.

But it happened. I can say to you that your engineers can sit around the table with slip sticks and calculations and one thing and another and design that tank and hope that that is going to work out the way it should but when you get it out on the test track you will find problems that you never anticipated. That is the thing we are into with so many of these very complex types of weapons that we are coming out with today.

They are most complex. They take the engineering skills of the best institutions we can find, and we certainly don't want to be accused of repeating an error that we made before knowingly, because we are working 11 or 12 hours a day to try and overcome them.

I assure you that anything in that direction that can be done is being done, that we don't relish these things happening, but in spite of us they happen.

Mr. MINSHALL. Mr. Secretary, I, too, would like to give you a few plaudits if I might because you and I worked together and I can always say you have been most cooperative and helpful even when I was brand new down here, and I am still very green.

You have been very fair and I appreciate it very much.

General Westphalinger said here today all you have to do is look at this model and he said the thing doesn't look right.

General WESTPHALINGER. No, I didn't say that. I said it presented a lot of problems.

General MCALISTER. Mr. Chairman, could I show Mr. Minshall something that I would not like to put in the record?

Mr. HOLIFIELD. We are going to have to hurry along here.

Mr. MINSHALL. I think we had better take this up in executive session, Mr. Chairman.

Mr. HOLIFIELD. I am trying to get into executive session.

General WESTPHALINGER. May I make a statement here, Mr. Minshall, that I think might help you in this situation?

You know after World War II we demobilized the Army and we reduced the strength of the War Department, and under the Unification Act later the Department of the Army.

Our procurement agencies and our research and development agencies were shrunk in size. The Korean affair came along June 26, 1950. We went into crash programs on the M–41 tank, the M–47 tank, the

M–48 tank and the M–43 tank simultaneously. We had to expand our personnel in these fields at that time. We did it, a very, very large expansion at that time.

We employed the best engineering companies in this country, Ford, General Motors, Alco, Chrysler, Cadillac, and we thought we got the best talent in this field. Many of these things did not work out quite as we had envisioned but they were all correctible. I think that we got good tanks at this time. That is the situation.

Mr. MINSHALL. Thank you very much. I have one other question, General Engler. I think you have some further data on the storage costs. Are you prepared to testify on that?

General ENGLER. Yes, sir. Colonel Prosser collected this information during the noon hour and I would like for him to give this data if you will, please.

Colonel PROSSER. Supplement 11, which you gave to us, provided specific information for certain operations to be performed as a matter of instorage preparation, storage, and so forth.

The figures which appear in supplement 11 were the estimates and contracted to originally. Sometime during this testimony it has come out that there has been price redeterminations. We go back and check costs. The costs which we submitted to the committee for the cost of this storage, which is approximately $800,000, was based on specific operations performed or to be performed as far as these vehicles are concerned.

If you wish, I can go into specific descriptions as to what happened and how much each operation involved.

Mr. MINSHALL. Can you give us the total cost per month?

Colonel PROSSER. I can give you the cost per vehicle per month. I can give you the cost of what each of the operations cost per vehicle each time it was performed. Is that what you are looking for?

Mr. MINSHALL. We had a figure this morning of $55, another $47 or $48. Is this just a breakdown of those figures?

Colonel PROSSER. I have the information that backs up that figure, sir. The figure they were giving you there, sir, was for each tank, for all of these costs thrown together, if you average them out for a tank in storage per month, the cost is approximately $57.

Mr. MINSHALL. In other words, if you had a thousand tanks in storage, it would be $57,000 a month, is that correct?

Colonel PROSSER. That is correct, sir, to perform all these operations. I would like to point out that some of the costs included here include loading on railroad cars. There are some over here included in here and it does not tie down specifically to instorage as we normally consider it but I can tell you specifically what operations were performed how many times and what they cost.

Mr. MINSHALL. That is all I have, Mr. Chairman.

Mr. HOLIFIELD. Mr. Lipscomb.

Mr. LIPSCOMB. Mr. Chairman, I would like to ask if there are any tanks at the present time being disposed of through surplus.

General WESTPHALINGER. Are you talking about any tanks without regard to the models today?

Mr. LIPSCOMB. I will start off with this. There is an invitation to bid which will be opened in April this year for tanks that are located near Richmond, Va., and it just lists, "Tanks, medium M–4." Do you know what kind of a tank that is?

General WESTPHALINGER. Yes; that was a World War II tank.

Mr. LIPSCOMB. And what is the reason for disposal as surplus of a tank of this type? Are they worn out or what?

General WESTPHALINGER. It is defiinitely an obsolete tank. It lacks the striking power of the modern tank.

Mr. LIPSCOMB. Do these tanks have any connection with the tanks that we supply on MDAP program?

General WESTPHALINGER. We have supplied some M–4 tanks to MDAP; yes.

General ENGLER. Does it give the complete designation of that tank, sir?

Mr. LIPSCOMB. It says, "Tank, medium, M–4–A3 less 75 millimeter gun, engine assembly, and generator."

General ENGLER. We have not been supplying 75-millimeter M–4 tanks to MDAP. That is an obsolete tank. That is one of the oldest guns.

General WESTPHALINGER. We have supplied better tanks than that model.

Mr. LIPSCOMB. What about your supply of spare parts on tanks?

General WESTPHALINGER. For this model you are speaking of?

Mr. LIPSCOMB. Yes.

General WESTPHALINGER. It is reasonably good from World War II.

Mr. HIGGINS. We have them.

Mr. MORGAN. Mr. Chairman, may I ask a question?

Mr. HOLIFIELD. Yes.

Mr. MORGAN. General Westphalinger, you say the supplies for the M–4 tanks are plentiful, the spare parts at the present time on any M–4 tank that is currently being used by MDAP countries, I don't care if it has a 75-millimeter gun or a 90-millimeter gun?

General ENGLER. The parts peculiar to the 75-millimeter gun, if they are not out of our supply system they should be out of it. Those parts which are used for the M–4 tank and which are usable for the M–4 tanks which we have supplied to our allies, we provide those parts to those people to meet their requirement before we ourselves take disposal action.

We are, however, attempting to avoid maintaining parts for obsolete vehicles within our supply system, because it overloads and overburdens our supply system. We do attempt to make the parts available to allies who have tanks which can use those parts.

Mr. MORGAN. Mr. Chairman, I merely wanted to get the assurance of the Army here that the M–4 tank, spare parts for this tank, were plentiful and there was no problem of supplying these to MDAP countries, because it was the staff's understanding that some of these old World War II tanks were still being used by MDAP countries and there was a critical problem of supplying them spare parts.

General ENGLER. I don't know that parts are plentiful, sir.

General WESTPHALINGER. I can answer that question because I was out at Ordnance Tank Automotive Command, and I looked into that for this very reason you are talking about. For the next 2 years' supply we have sufficient spare parts for these M–4 tanks worldwide for all of these MDAP countries holding these tanks except $431,000 worth. We will have to buy $431,000 worth of spare parts for a 2-year supply. The rest of the parts we have.

Mr. MORGAN. In other words, on these tanks that are being disposed of, there are no parts that can be salvaged that are needed in your spare support program for the MDAP countries.

General WESTPHALINGER. I think that we have done a lot of salvaging. That is why we are in such a good position now on these spare parts. The reason we are in good position here is a lot of this stuff has come back into the system, about $120 million worth a year for the last 2½ or 3 years.

Mr. HOLIFIELD. What do you mean come back into the system?

General WESTPHALINGER. Parts have been out in the field and have now come back in to the depot and have been picked up again on our records and are being used.

Mr. HOLIFIELD. Do you cannibalize these tanks as they come in, some of them, to provide spare parts?

General WESTPHALINGER. That is right, where it is desirable to do so.

General ENGLER. If the part is reclaimable.

Mr. HOLIFIELD. If there are no further questions, we will go into executive session at this time.

Mr. ROBACK. While we are waiting can I ask one question of General McAlister?

General McAlister, have you formally made a request for this E2 tank?

General MCALISTER. Not yet; no.

Mr. ROBACK. You are waiting on the test results?

General MCALISTER. Yes, sir.

Mr. ROBACK. Was the E2 tank requested by you at a previous time?

General MCALISTER. No.

Mr. ROBACK. When did you come to a decision that you wanted the E2 tank?

General MCALISTER. We recently reaffirmed—the Commandant of the Marine Corps recently reaffirmed our requirement for the E2 tank, but not having seen the test report, we can't tell you what the last modification will be on the tank that we desire.

Mr. ROBACK. Why didn't you initiate a request for a tank you wanted 2, 3 or 4 years ago?

General MCALISTER. We have participated with the Army in these test programs, and have drawn the information to back up our requirement for this tank right from the test reports which they have run, including the tests on their E2 tank.

Mr. ROBACK. Since you are not the procuring agency, are you, you might say, the residuary legatee of the Army's mistakes in this procurement?

General MCALISTER. No, sir, we don't feel we are.

We believe, as I said in my statement, that this E2 version is going to be a superior weapon.

Mr. ROBACK. Are you satisfied with the Army single service assignment in this particlular area?

General MCALISTER. Yes, sir.

Mr. HOLIFIELD. All right.

(Whereupon, at 3:35 p. m., the subcommittee adjourned to go into executive session.)

APPENDIX

MAY 10, 1957.

Maj. Gen. J. H. MICHAELIS,
Chief, Office of Legislative Liaison, Department of the Army, Room 2C–639, The Pentagon, Washington, D. C.

DEAR GENERAL MICHAELIS: During the hearing on the procurement of heavy tanks, General Engler testified that there were 4 basic contracts with Chrysler Corp. aggregating a cost of $107 million. In the course of the testimony several additional contracts were mentioned. In response to a further question from the staff, you submitted to the subcommittee by letter dated April 26, 1957, a list of 10 contracts. In order for the subcommittee to have a total cost figure on these contracts, will you kindly furnish us with the contract costs for each of the 10 contracts listed in the April 26 letter.

Colonel Prosser testified at the hearing that the in-storage costs per month for a tank were approximately $57. This figure is somewhat different from one previously furnished the staff, which put the in-storage maintenance cost per vehicle at $366 per quarter. Will you kindly submit an explanation for the record reconciling these figures.

Sincerely yours,

HERBERT ROBACK, *Staff Director.*

JUNE 7, 1957.

Mr. HERBERT ROBACK,
Staff Director, Military Operations Subcommittee, Committee on Government Operations, House of Representatives.

DEAR MR. ROBACK: Reference is made to your letter of May 10, 1957, in which you requested certain additional information in connection with testimony of Army representatives before the subcommittee on the subject of the heavy tank program.

You requested two specific items of information as follows:

(1) Contract costs of each of the 10 contracts listed in the enclosure to the letter from General Michaelis to you dated April 26, and

(2) You requested an explanation of the in-storage cost previously furnished to the subcommittee.

With respect to your first question the following contracts are partially applicable to the production costs of the tank T–43 and are included in the $107 million figure submitted. The portion chargeable to the T–43 is listed, certain engineering costs which are commingled with the tank M–48 are on a pro rata basis.

DA 20–089–ORD–8406: Tanks, spare parts, and engineering services	$70,010,000
DA 36–034–ORD–1397: Final processing, including modification	5,747,687
DA 36–034–ORD–1223: Basic engineering services	2,682,300
DA 20–018–ORD–13627: Engineering services	724,312
DA 36–034–ORD–1204: Parts and/or assemblies	135,000
Total	79,299,299

The above contracts together with Government-furnished components and services for guns, fire-control items, OVM, machineguns, proof testing and inspection control tests, R. and D. and prototypes together with user test tanks totaling $28,575,700 accounts for the $107 million.

The following contracts were not included in the $107 million figure and are not considered applicable to the T–43 production costs but are applicable in part to the overall T–43 program.

DA 36–034–ORD–740: Facilities (for production of T–43 and M–48, cannot be segregated)	$57,789,816
DA 36–034–ORD–1245: Trainers	165,180
DA 36–034–ORD–1655: Maintenance, protection, and preservation of Government-owned facilities (layaway of facilities for T–43 and M–48, cannot be segregated)	8,692,767
DA 36–034–ORD–900: Final inspection gages, covers M–48 and T–43	2,284,479
DA 36–034–ORD–2427: Publications	363,191

With respect to your second question, in the report submitted to the Military Operations Subcommittee of the House Committee on Government Operations in April 1956, it was stated that the maintenance and storage cost was $366 per quarter per vehicle, but that the cost was being redetermined with the contractor.

The estimate of $366 per quarter was made in 1956 and represented the cost of maintenance in-storage and in addition thereto, the cost of removing, replacing and rehabilitating parts that periodic inspection indicates are in a state of deterioration and require replacing or correction to prevent further damage.

During the Committee hearings in March 1957, Lieutenant Colonel Prosser stated that the in-storage cost per month for a tank approximated $57. This represents the present average cost of maintenance in-storage operations for the heavy-tank program, and encompasses unsealing and opening all hatches, starting the tank engine and generator, moving vehicles, exercising recoil mechanism and turret control, represerve tank engine and generator, resealing all hatches, and visual inspection and touchup work.

It is hoped that this information will be of assistance to the subcommittee.

Sincerely,

(Signed) J. E. BASTION, Jr.,
Brigadier General, GS,
Deputy Chief of Legislative Liaison.

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